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Near Record Cotton Yield Seen by Crop Reporting Board

WASHINGTON—The U.S. Department of Agriculture Crop Reporting Board has forecast a 1956 cotton crop of 13,552,000 bales, 8% less than last year's production of 14,721,000 bales. Indicated yield per acre this year is 394 lb., second highest in history, below the record 417 lb. an acre established last year.

"The yield per acre prospects continue to reflect the effects of growing cotton on the best land, the use of more and higher analysis fertilizers and other improved cultural practices," the Crop Reporting Board said.

Cotton prospects are exceptionally favorable in New Mexico, Arizona, California and irrigated areas of northwestern Texas, according to the board. Prospects are generally as good as last year's record yields in most central belt areas, and better than average in coastal states where boll weevil infestation is a serious threat. In central and some dryland areas of northwest Texas prospects are very poor.

The board also noted that in North Carolina, Georgia and Alabama, rainfall was ample to excessive during July with frequent showers hampering poisoning in some areas. Weevil infestation increased materially during the month with considerable damage reported in some sections. In South Carolina, progress of fruiting was satisfactory during July with weevils mostly under control. In the central belt, the crop is well advanced and fruiting heavy. Poisoning operations have been widespread and generally effective.

In Texas, cotton prospects are extremely poor in the central part, the southern and some northern low rolling plains counties and extreme southern counties of the high plains. However, dryland cotton in central high plains areas made good progress during July, but soils were becoming dry toward the end of the month.

INDUSTRY WEEK

Monsanto to Build Phosphoric Acid Unit at Colorado Fuel & Iron Plant

DENVER—Construction of a phosphoric acid unit by Monsanto Chemical Co. will get under way immediately at the Colorado Fuel and Iron Corp. plant in Pueblo, Colo., it was revealed here recently in a joint announcement by J. L. Christian, Monsanto vice president, and J. J. Martin, CF&I vice president.

The phosphoric acid unit, the first of its particular kind and size, has been engineered specifically to meet the needs of the CF&I coal chemicals operation. Officials of the two companies said that the installation is a unique and pioneering move.

Electric furnace elemental phos-

phorus will be shipped from Monsanto's plant at Soda Springs, Idaho, to Pueblo, where it will be burned in the new unit to make phosphoric acid. This acid will then be pumped directly into the CF&I plant system for use in the production of diammonium phosphate, a high analysis fertilizer material being marketed by CF&I under the trade name of DAP.

The use of phosphoric acid, instead of sulfuric acid, for recovery of ammonia from coke oven gas was pioneered by CF&I in January, 1955. Engineering and construction work is being handled by CF&I, Vern E. Alden Co. of Chicago, and Monsanto.

Woonsocket Color & Chemical Approves \$1/2 to \$3/4 Million Nitro-Form Expansion

WOONSOCKET, R.I.—The board of directors of Woonsocket Color & Chemical Co. has approved a \$1/2 to \$3/4 million expansion program for the firm's Nitro-Form Agricultural Chemicals Division.

James M. O'Donnell, vice president, also reports that the board decided that, for the purpose of sales and future expansion, the Nitro-Form division should be split into a separate corporation. Stocks and debenture loans will be used for the financing of this new corporation.

The purpose of the new organization will be the sale and promotion of urea-formaldehyde nitrogen compounds and such products as chelat-

ing agents, granulated insecticides, herbicides and fungicides, Mr. O'Donnell said.

Future plans call for the basic production of formaldehyde and urea-formaldehyde slurries for the fertilizer industry.

Bids Now Open on Supplying Agricultural Chemicals to Greece

WASHINGTON—The U.S. Department of Commerce announced Aug. 20 that the Agricultural Bank of Greece, Permanent Supplies Committee, Athens, is inviting bids until Sept. 12 for agricultural chemicals.

Copies of terms and specifications are available from Trade Development Division, Bureau of Foreign Commerce, Washington 25, D.C. Bids are being asked on the following:

3.75 m.t. gamma-isomer of benzene hexachloride as wettable powder 12-18%; 8.25 m.t. gamma-isomer of benzene hexachloride as dust base 12-18%; 60 m.t. of D.D.T. water-dispersible powder 75% and above; 20 m.t. of D.D.T. 75% and above dust base; 10 m.t. systox; 50 m.t. mixture ethylene dichloride and carbon tetrachloride 3 to 1; 35 m.t. aldrin 40% and above wettable powder; 10 m.t. dieldrin water dispersible powder 50% and above; 13 m.t. of active ingredient zinc ethylene bisdithiocarbamate (Zineb) as wettable powder 65% and above; 8 m.t. metaldehyde.

C&I Gets Contract For Texas Co. Plant

NEW YORK—The Texas Co. has recently awarded a contract to the Chemical and Industrial Corp., Cincinnati, for the design and construction of a 200-ton-per-day nitric acid plant which will be equipped with a fume eliminator to remove the nitrogen oxides from the exhaust gases, and an ammonium nitrate solutions plant which will be equipped with the CSC Stengel reactor.

The plant will be capable of producing solutions at the rate of 274 tons per day.

At the equipment demonstration,
(Continued on page 20)

North American Deliveries of Potash Up 3%

Decline Shown in Continental U.S.
In Fiscal 1955-56

—See Table on Page 23—

WASHINGTON, D.C.—Potash deliveries in North America by the seven leading American potash producers and importers, amounted to 2,220,463 tons K₂O during the fiscal year of June, 1955, through May, 1956, according to the American Potash Institute. This represents an increase of less than 3% over 1954-55. The deliveries were made in 48 states, the District of Columbia, Canada, Cuba, Hawaii, Puerto Rico, and a few other countries.

Potash for agricultural purposes in the continental United States amounted to 1,845,943 tons K₂O, a decrease of less than 3% under last year. Canada received 90,402 tons K₂O, an increase of 4%; Cuba, 15,799 tons, an increase of 200%; Puerto Rico, 19,998 tons, a decrease of 10%; Hawaii, 21,316, an increase of 11%; and other countries, 103,523 tons, an increase of 238%, compared to last year.

Illinois was the leading state for
(Continued on page 21)

Ethylene Dibromide Tolerance Proposed

WASHINGTON, D.C.—The U.S. Department of Agriculture has requested that action be taken to permit the use of ethylene dibromide as a fumigant in the current Mediterranean fruit fly control program in Florida, and in the quarantine program to prevent entry into the country of several species of fruit flies from outside the continental U.S.

Accordingly, the commissioner of Food and Drugs has proposed that the regulations for tolerances for residues of inorganic bromides resulting from fumigation with ethylene dibromide be established at 50 parts per million of inorganic bromides (calculated as Br) in or on the following grains that have been fumigated with ethylene dibromide: barley, corn, oats, popcorn, rice, rye, sorghum (milo), and wheat.

Tolerances of 10 ppm are proposed for residues of inorganic bromides (calculated as Br) in or on the following commodities that have been fumigated with ethylene dibromide in accordance with the Mediterranean fruit fly control program or the quarantine program of the USDA: beans (string), bitter melon, Cavendish bananas, citrus fruits, cucumbers, guavas, mangoes, papayas, peppers (bell), pineapple, Zucchini squash.

John L. Harvey, deputy commissioner of Food and Drugs, issued the proposal on Aug. 6.

K. P. Dubrovin Added to Spencer Research Staff

KANSAS CITY—Spencer Chemical Co. has announced that Dr. Kenneth P. Dubrovin has joined the staff of the chemical research department. Dr. Dubrovin is specializing in soil chemistry and will be assigned to the central research laboratory located at the company's Jayhawk Works near Pittsburg, Kan.

He received his B.A. from the University of Illinois in 1953 and his

Ph.D. from the University of Wisconsin in June, 1956. From September, 1953, to June, 1954, he studied at the Wageningen Agricultural College, Wageningen, Holland, on a Fulbright scholarship. He is a member of the Soils Science Society of America.

BAGWORM DAMAGE

LAFAYETTE, IND.—Indications are that this summer may be a record year for bagworm damage, according to Glen Lehker, Purdue University entomologist.



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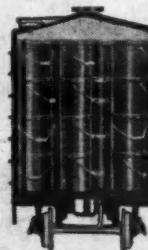
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Program Announced For Meeting of South Carolina Group

COLUMBIA, S.C.—The program for the seventh annual meeting of the South Carolina Plant Food Educational Society has been announced by Henry E. Gifford of Columbia, president.

The Aug. 30 gathering, at Clemson House, Clemson, S.C., will hear Dr. M. D. Farrar, dean of the Clemson School of Agriculture, discuss "What's Ahead in Agriculture" at the opening session at 2 p.m.

Also on the afternoon session are "Clemson's Agronomy Program" by Dr. G. H. Collins, head of the Clemson College agronomy department; "Soil Testing and Fertilizer Ratios" by Frank Boyd, agronomist, Virginia-Carolina Chemical Corp., Montgomery, Ala.; and "Plant Food in South Carolina—Eat Your Cake and Have It Too" by Dr. Russell Coleman, executive vice president, National Plant Food Institute, Washington, D.C.

Dr. Coleman's talk will be followed by a panel discussion, "More \$\$\$ for You and Your Customers Through Use of More Plant Food," led by Dr. H. A. Woodle of Clemson.

After a business meeting and directors' meeting, a concluding banquet will feature a talk by C. S. Reed, vice president of the Duke Power Co., Charlotte, N.C., on "Times Are Changing." C. G. Cushman, dairy extension leader, Clemson, will be master of ceremonies.

Stauffer Chemical Adds Two at Richmond Plant

NEW YORK—The Richmond, Cal., plant of Stauffer Chemical Co. has recently added to its technical staff Richard W. Davis, a chemist, and Fred Davenport, a chemical engineer.

Mr. Davis was graduated with a B.A. degree in chemistry from the University of California in 1953. He formerly worked as an analytical chemist for Colgate-Palmolive, and for Shell Oil Co. At Stauffer he will work in the control laboratory.

Dr. Davenport was awarded a B.S. degree in chemical engineering from the University of California in 1956. As an undergraduate, he was employed at the Richmond plant during summer vacation.



C. S. Griffith

SAFETY MEETING SPEAKER—The importance and function of the safety committee in fertilizer plants will be discussed by C. S. Griffith, superintendent of the Virginia-Carolina Chemical Corp. plant at Cincinnati, Ohio, when the Fertilizer Section of the National Safety Council meets in October. Mr. Griffith has been with V-C for nearly 40 years, and has had broad experience in supervising activities of its plants in many cities. The fertilizer safety meeting will be held Oct. 22-23 at the LaSalle Hotel, Chicago.

William W. Johnson Joins Mississippi River Chemical Co.

ST. LOUIS—The appointment of William W. (Bill) Johnson as technical service representative has been announced by John L. Sanders, sales manager, Mississippi River Chemical Co., a division of Mississippi River Fuel Corp., St. Louis.

Mr. Johnson will assist Bradley & Baker, distributors of agricultural products produced by Mississippi River Chemical Co., in the proper use of the products furnished to fertilizer manufacturers.

Formerly associated with Dr. Salisbury's Laboratories, Charles City, Iowa, Mr. Johnson has spent the last year and a half with American Nitrogen Corp., at Humboldt, Iowa. This involved the handling of nitrogen solutions and producing complete liquid fertilizers.

Mr. Johnson, who served in the U.S. Navy as a carrier-based pilot during World War II, graduated from Iowa State College with a B.S. degree in chemical engineering. His headquarters will be St. Louis.

New Soil Testing Lab Opened in Tennessee

MEMPHIS—An analytical soils laboratory has been opened by United States Testing Co., Inc., at its Memphis office in the Cotton Exchange Bldg., according to an announcement by W. H. Jones, Memphis manager of the testing company. Other special agricultural testing projects also will be undertaken.

Mr. Jones said the company's decision to expand into the soils analysis and agricultural field was based on a growing need for rapid and accurate data of this type by farmers, financial interests, fertilizer distributors and others.

U. S. Testing Co., founded in 1880, has grown to be the most diversified independent commercial laboratory in the country with branches from coast to coast. Headquarters are in Hoboken, N.J. The Memphis branch has heretofore specialized in cotton fiber testing and chemical work.



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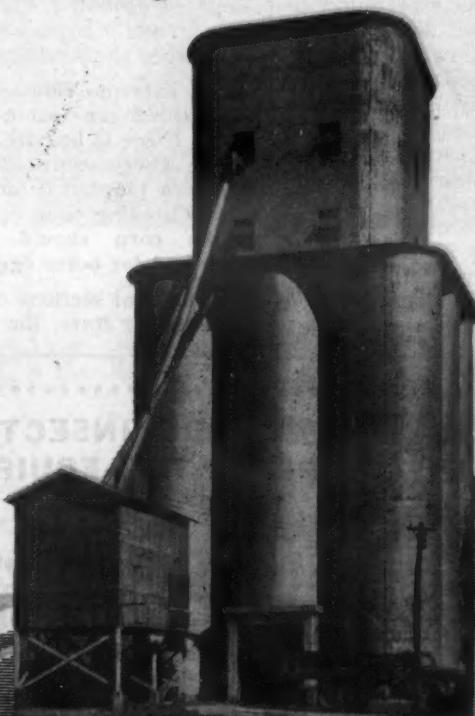
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INSECT, PLANT DISEASE NOTES

Fewer Insects Counted in Kansas Pest Survey

MANHATTAN, KAN.—Light infestations of spotted alfalfa aphids were found in alfalfa fields in Dickinson, Geary, Clay, Riley, Wabaunsee, Morris, Marshall and Pottawatomie counties. Counts ranged from 50 to around 2500 aphids per 25 sweeps. Although present, aphids were difficult to find in those fields surveyed in Washington and Marshall counties, north central. Few ladybeetles and/or larvae were found in any of the aphid-infested fields.

A continuation of the late-summer adult grasshopper survey showed that infestations ranged from light to severe in the following counties: Dickinson, Clay, Washington, Geary. Light to threatening populations were found in Marshall, Pottawatomie, Wabaunsee, Morris and Riley counties. The heaviest infestations were found only in favored habitats and were nowhere widespread.

Where adequate and timely control measures have been applied few hoppers exist and little crop damage evident. In the infested areas, counts range from 8 to 30 hoppers per square yard along field margins, fence rows, roadside ditches, weed patches, and along creeks, and field counts generally range from about 2 to 18 per square yard. Dead grasshoppers, probably from fungus infection, were observed in Pottawatomie, Wabaunsee and Morris counties. Grasshoppers dead from fungus disease were observed in Johnson County, east central, the week of July 30 to Aug. 4.

Heavy garden webworm infestations were observed in a few alfalfa fields in Wabaunsee, Morris, Dickinson, and Clay counties. Counts generally ranged from 4 to 12 larvae per sweep in most fields with counts that ranged to a high of 43 per sweep in one field in Wabaunsee County. The heaviest populations were found in alfalfa fields that were located along creek bottoms.

The alfalfa plant bug was found abundant in alfalfa fields in Wabaunsee, Pottawatomie, Riley, Clay, Washington and Marshall counties. Counts ranged from 2 to 12 per sweep. A new generation of nymphs was found in several of the infested fields.

Very few European corn borer larvae were found in fields of Washington, Marshall and Pottawatomie counties. Infestation rates appear to be below 4%. No pupae or early instar larvae were found.

Light to heavy populations of western corn rootworm beetles were observed in corn fields in Washington, Marshall and northern Pottawatomie counties, north central. Counts ranged from 3 to 40 beetles per stalk. Heavy

feeding and destruction of silks was common in the heavier infested fields. Of the rootworm beetle populations present, about 80% were the western species, 10% southern and 10% northern corn rootworm.

Corn Earworm Plentiful in Parts of Maryland

COLLEGE PARK, MD.—Corn earworm has been heavy on sweet corn in Montgomery County. It may be expected to increase in sweet corn as field corn silks dry up. Moths are increasing at lights. Sap beetles are still bad.

Fall armyworms are doing spotty damage to late corn on the Eastern Shore. There has been no increase of corn borer. Differential grasshoppers are damaging corn in Wicomico County.

Alfalfa crops in Montgomery and Harford Counties are looking very green where they were sprayed. Potato leafhoppers are abundant in neglected borders and recently cut alfalfa needs protection. The spotted alfalfa aphid has been killing alfalfa in the West since 1954 and has moved eastward to Missouri and Georgia. Damage appears in spots.

Grasshoppers are growing larger and may damage pasture and hay.

Second-brood hornworm eggs and young larvae found in St. Marys County. Green peach aphids moderate to heavy and treatments are being made. Green June beetles are common in Southern Maryland. They lay eggs in rich dirt where the grubs will feed.—Thos. Bissell and W. C. Hardin, Jr.

Alfalfa Aphid Is Viewed With Alarm in Missouri

COLUMBIA, MO.—In most parts of the state, alfalfa is becoming heavily infested with webworm. Growers are urged to watch fields closely for the first signs of severe damage.

Grasshoppers are still a major threat over much of the state, and are causing considerable damage to crops in some areas. Actually, the big consideration on hoppers now is the damage they will do to fall sown crops. The only way to prevent damage to newly seeded alfalfa, pastures and small grains is to get rid of the hoppers around fields to be seeded. It is virtually impossible to adequately protect the seedling growth itself.

In extreme Southeast Missouri, the third generation of European corn borer is heavily infesting late corn. There seems little possibility of corn planted before the first of June needing to be sprayed, but all June corn should be carefully checked for borer egg masses.

In several sections of the southern part of the state, the spotted alfalfa

aphid has built up to the point where controls should be used. We have no way of knowing what to expect, but we believe there is a great possibility of spotted aphids continuing to build up for several weeks. Consequently, as soon as a field is being hurt, it should be sprayed immediately.

New seedlings of alfalfa will need to be watched very closely for spotted aphid infestations. The seedlings will not withstand a great amount of damage, and with an insect involved which can build up as rapidly as this one can, the stand can be ruined before a person is aware of any danger, unless a close check is maintained.—Stirling Kyd and Geo. W. Thomas.

Grasshoppers Head List Of Pests in Virginia

BLACKSBURG, VA.—Grasshoppers are close to the top of the list of insects damaging crops in Virginia this week (Aug. 15). Arthur P. Morris, associate entomologist at Virginia Polytechnic Institute, says grasshopper damage is reported to corn, hay and pastures.

Many fields of tobacco are being injured by grasshoppers, and insecticides should be applied promptly, he warned. Tobacco is especially likely to be heavily damaged by grasshoppers if bordered or surrounded by hay crops that are harvested.

Tobacco farmers also can expect a large increase in the number of hornworms. In the meantime, spider mites, bagworms and Japanese beetles continue to be the main insects damaging ornamentals in all areas of the state.

Cattle-grub flies are now on the wing in some parts of the state and are laying their eggs on cattle. The grubs hatch and eventually wind up in the backs of the cattle in the spring where they make holes in the hides.

Other insects of importance on animals reported during the past week were sheep scabies, ticks, hog mange, mites and mosquitoes. A small outbreak of sleeping sickness in horses has occurred in one Northern Neck county. This disease is believed to be spread by some species of mosquitoes, and the outbreak may continue. Preventive vaccine is being used in the county where the outbreak was reported.

Mr. Morris has also warned Virginia growers to be on the lookout for outbreaks of the armyworm. Although there appear to be no definite indications for such an outbreak, such an event would not be unexpected. Alfalfa growers were also asked to be on guard for the possible appearance of spotted alfalfa aphid which he said "appears to be on the way to plague Virginia farmers."

Illinois Growers Urged to Spray Against 'Hoppers

URBANA, ILL.—Apparently pupation of first-generation European corn borers is almost complete, but it varies from field to field. In some fields with large numbers of borers, as few as 10% have pupated to form a second generation. In similar adjacent fields, as many as 40% have pupated. Average pupation throughout Illinois varies from 20 to 40%.

About half of the moths have emerged; they are depositing eggs, and appreciable egg laying should occur for about two more weeks. In eastern and northern Illinois, egg mass counts vary from only a few to as many as 200 or more per 100 plants. Counts in western Illinois are lower. On the basis of moths still to emerge, the northern three tiers of counties and the eastern two tiers south to Highway 36 may have a very high second-

FIND APHID IN KENTUCKY

LEXINGTON, KY.—Appearance of the spotted alfalfa aphid has been reported for the first time in Kentucky. Agricultural experiment station entomologists sent the specimens to Washington for positive identification to establish the fact that the aphid is in the state.

Dr. Kenneth Starks, assistant entomologist at the University of Kentucky, said the specimens were collected in Hickman County, at the western edge of the state. The infestation was light, he said, but the fact that the pest is definitely within the state is reason for alerting growers and entomologists to be on the lookout for more.

Appearance of the spotted alfalfa aphid in Kentucky was not unexpected, Dr. Starks said, since heavy infestations have been recorded in Missouri, just across the Ohio river from Hickman County.

generation population, similar to or worse than that of 1955. Treatment should be made immediately if the full value is to be realized.

Grasshopper nymphs are still concentrated in fencerows, roadsides and ditch banks. Apply $\frac{1}{4}$ lb. dieldrin or $1\frac{1}{2}$ lb. toxaphene per acre, but where meadows or pastures are severely infested, apply $\frac{1}{4}$ lb. aldrin or heptachlor per acre, and adhere to manufacturer's recommended interval between application and harvest or pasturing.—H. B. Petty.

Iowa Growers Alerted Against Corn Borers

AMES, IOWA.—The European corn borer situation in central Iowa is confused. The per cent of pupation and emergence varies sharply from area to area. In Boone County, pupation ranges from 36 to 86%—and the 36% is in good corn in northern Boone County. Emergence is about 60% in Ankeny.

At Ankeny, on late corn, there are 80 egg masses per 100 plants. In Boone County, on drought-damaged corn, there are 60 egg masses per 100 plants. Hatching has taken place in both Polk and Boone Counties. Since moths are flying heavily in all parts of Iowa and southern Minnesota, any farmer who has good corn should watch it and treat it as soon as 100 egg masses per 100 plants are seen. Some farmers are treating now in the northern $\frac{1}{2}$ of Iowa.

The 2-spotted mite is appearing on corn and soybeans. Cool rainy weather will hold them in check.

Farmers who plan to seed alfalfa, oats, rye or other forage crops during the next few weeks should control grasshoppers now. Dealers and leaders alike should urge farmers to continue their fight against these pests. The maximum dosage of any recommended insecticide should be used. From 60-90% of the grasshoppers present are adult or nearly full grown in all parts of Iowa.

Corn leaf aphid populations seem to be disappearing in corn. This reduction may be due to weather, predators or both.—Harold Gunderson.

Adult Boll Weevils Numerous in Tennessee

KNOXVILLE, TENN.—Dry weather throughout the area is killing many boll weevil grubs, but adults are numerous in the infested fields. As many as four adult weevils have been found in one bloom. Squares are getting scarce in some fields and bolls are being attacked in the heavily infested fields. As a result of the lack of squares, migration to younger fields is occurring at this time. Square counts made in the infested fields average 40% infested. The average infested squares this time last week was 39%. Since weevils are leaving

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Plant Diseases Present With Insect in Delaware

NEWARK, DEL.—Downy mildew is everywhere present on limas, it was reported on Aug. 10. Severe damage was expected if weather remained cool and damp, and the application of copper fungicides was advised.

Insects are active in Delaware. Corn earworm, the European corn borer, green peach aphid and tobacco hornworm were all mentioned as being present in various parts of the state.

1957 CONFERENCE ANNOUNCED

PULLMAN, WASH.—B. R. Bertramson, chairman of the department of agronomy, Washington State College, Pullman, has announced the dates of the eighth annual fertilizer conference of the Pacific Northwest for 1957. It will be held at the Benson Hotel, Portland, Ore., June 26-28, he says.

older fields, careful checks should be made in the younger cotton to prevent damage by control if necessary.

Boll worms are increasing all over the area and control is needed in many fields at this time. The worms are small and are working the squares. Control measures should be taken before these worms get large and enter the bolls. Corn is drying up and these worms are moving from these fields to the cotton fields.

Spider mites are causing damage spots in fields where boll weevils have been found. Light infestations of aphids are found all over the area.—R. P. Muller.

Aphids Hit Potatoes Colorado Fields

FRANCIS COLLINS, COLO.—Aphids are increasing in potato fields in Larimer and Weld counties, according to the Colorado insect detection committee. Dr. L. B. Daniels, committee chairman and chief entomologist for the Colorado A&M Experiment Station, advised growers of certified and foundation potato seed to undertake control measures immediately. With leafroll virus building up in the past two years, he also advised growers to inspect their fields closely for the presence of aphids.

Curly top is beginning to show up in sugar beets in northeastern Colorado, the committee reported. Traces of the disease, transmitted by the beet leaf hopper, are showing in most fields. An average of between 10 and 15% is reported, although one field in Boulder county is estimated at 50%.

Numbers of the spotted alfalfa aphid continue to fluctuate in the heavily infested areas. In Prowers County a definite decrease was noted, while in Otero County the peak in numbers has been reached. The largest infestation of the spotted alfalfa aphid appears to be in Yuma County. In Alamosa County severe damage has been caused by the tomato psyllid in plantings of potatoes and tomatoes. Other counties in which "psyllid yellows" have been observed are Weld, Logan, Rio Grande and Archuleta.

Cotton Beetles Fly Again to Western Massachusetts

AMHERST, MASS.—Adult Japanese beetles are flying again, feeding on flowers, fruit and leaves of more than 200 types of trees, shrubs and garden plants in most of Massachusetts, according to Elsworth H. Wheeler, extension entomologist at the University of Massachusetts, who advised almost daily dusting or spraying to keep beetles off new leaves and newly opened flowers.

Boll Worms Offer Only Small Threat, Report Says

RALEIGH, N.C.—Boll worms are still not a threat generally speaking, but a few fields in most sections have some worms. This pest must be watched as it can cause serious damage yet. Certain parts of Anson County seem to have more boll worms than any other section in the state.

Boll Weevils were beginning to show up in large numbers this week (Aug. 10) in most sections. They have been "very active" in the lower southeast for several days. County Agent Kiser at Gastonia has warned his growers that what is done during the next two to three weeks might determine whether or not a cotton crop is harvested.

Spider mites were reported in most fields, but the majority of the fields showed only spotted damage. The pests will likely (except in localized spots) do as much good as damage

by aiding in removal of leaves from now on. Use of recommended insecticides may be worthwhile in some cases.

Minnesota's Grasshopper Population on Increase

ST. PAUL, MINN.—Severe infestations of grasshoppers in areas along the Mississippi from the Twin Cities south to Winona, Minn., have been noted in some fields. Although good results have been obtained from treating some fields, other severe infestations are being left untreated. Grasshoppers were found moving into corn and feeding on silk and even the ears. In some fields in southeastern Minnesota, 50% of the red-legged grasshoppers are fully grown, in other fields, only a small percentage are adults.

In northwestern Minnesota, the clear-winged grasshopper has begun egg-laying, and the two-striped grasshopper is just beginning its

egg-laying in northwestern Minnesota.

Red-banded leaf roller larvae are causing considerable amounts of damage in some orchards. Growers are advised to treat without delay.

Cotton Insects Damage Crops in Arizona

PHOENIX, ARIZ.—Lygus bugs, stink bugs, boll worms and cotton leaf perforators are causing considerable injury to cotton that is otherwise making excellent progress in Arizona. The situation is worse where growers neglected earlier to apply insecticides until insect counts were high.

The insect picture throughout Maricopa County appears bad, according to the reports. Lygus, stink bugs and boll worms are working in all areas, and leaf perforators, cabbage loopers and leaf rollers are also causing damage, particularly in the Tolleson, Mesa, Higley, Gilbert and Deed Valley regions.—J. N. Roney.

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and other small
grains**

**Successful growers rely on dieldrin
seed treatment**

IN THE PAST, newly planted seeds were at the mercy of wireworms, rootworms, seed-corn maggots, false wireworms, and other soil pests. Today the picture has changed. Growers can protect seeds from soil pest damage with a dieldrin preventive seed treatment *before planting*.

Low-cost protection—A dieldrin preventive seed treatment costs just a few pennies per acre. It eliminates the expense of replanting "spotty" stands . . . assures growers of a longer grazing period.

Compatible with fungicides—Dieldrin formulations remain stable when mixed with commonly used fungicides.

Both can be mixed and applied at the same time.

Long residual action—A single dieldrin seed treatment gives growers effective soil pest protection until the seeds sprout.

Treat now—plant later. Dieldrin, unlike many other insecticides, can be applied to seeds long before planting. Growers save valuable time during the busy planting season.

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Complete technical information on dieldrin preventive seed treatment is available. Write to:

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AGRICULTURAL CHEMICAL SALES DIVISION
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Nebraska Anhydrous Conference to Hear Agronomy Reports

LINCOLN, NEB.—Reports by college agronomists will be featured at the Great Plains Agricultural Ammonia Conference, to be held at the Cornhusker Hotel here Aug. 28-29.

A Phillips Petroleum Co. film, "A Matter of Time," will be shown at the opening of the conference, at 1:15 p.m. Aug. 28. After a welcome by W. V. Lambert, dean of the University of Nebraska College of Agriculture, the following reports by the University of Nebraska agronomists will be heard:

"Nebraska's Fertilizer Needs," H. F. Rhoades; "The Secrets of Soil Tests," Delno Knudson; "Phosphorous Carriers and Soil Conditioners," R. A. Olson; "Nitrogen Carriers—Time, Methods, Rates," A. F. Dreier;

"Soil Moisture and Fertilizer Results on Corn and Wheat," R. E. Ramig; "Fertilizing Sub-Irrigated Meadows," E. M. Brouse; "A Year-Round Fertilizer Calendar," G. W. Lowrey, and "New Information on Trace Elements," Leon Chesnay.

Kaspar Peter, Phillips Petroleum Co., will preside over the Aug. 28 session.

Charles Larsen, Bertrand, Neb., will be the principal speaker at the banquet the evening of Aug. 28. Toastmaster will be Howard Peterson, president of the Nebraska Fertilizer Institute.

A National Plant Food Institute film, "The Big Test," will open the Aug. 29 morning session, over which Harry Stangel, Allied Chemical & Dye Corp., will preside.

That session will include "Fertilizer for Wheat and Grain Sorghum," F. W. Smith, Kansas State College; "Fertilizing Corn for Yield and Protein," John M. MacGregor, Univer-

sity of Minnesota; "The Agricultural Ammonia Institute," Gen. R. H. Wootten, Mid-South Chemical Corp., Memphis, president of the institute; "Fertilizers for Irrigated Crops in Western Nebraska," F. V. Pumphrey, University of Nebraska agronomist, and a question and answer symposium, Charles Bourg, U.S. Steel Corp., Salt Lake City, leader.

An equipment demonstration will be held the afternoon of Aug. 29 at the Experiment Station farm. In charge will be L. W. Hurlbut, chairman of the agricultural engineering department, University of Nebraska, with W. D. Lutes and D. E. Lane, of the department, assisting.

The demonstration will include field setting ammonia applicators, transfer of ammonia, application demonstration—corn stubble and application demonstration—sod.

The meeting is being sponsored by the University of Nebraska in cooperation with Nebraska Ammonia Dealers Assn. and the Agricultural Ammonia Institute.



Harold C. Ihde

GETS SALES POST—Harold C. Ihde has been appointed assistant manager of agricultural chemicals, Spencer Chemical Co., Kansas City, Mo. He has been acting director of agricultural sales development since June, 1955, and his new appointment brings under his direction the functions of the district sales offices, as well as agronomy and technical service. The move will consolidate the activities of agricultural chemical sales and sales services, the company states.

Talk on Conservation Practices Set For Mechanization Conference

ATLANTA—How conservation practices help to improve and stabilize cotton production over the rolling terrain of the Southeast will be described here Aug. 22.

"The Role of Conservation Farming in Cotton Production" will be explained by Cecil W. Chapman, state conservationist for Georgia, to the Beltwide Cotton Mechanization Conference.

Mr. Chapman, with the USDA Soil Conservation Service at Athens, Ga., will address the Wednesday afternoon session of the three-day meeting at the Biltmore. Advanced registration indicates an attendance of some 600 persons, representing the cotton industry, federal and state research and educational services, farm equipment companies and other groups.

H. L. Wingate, Pelham, president of the Georgia Farm Bureau Federation and presiding officer for the afternoon session Aug. 22, points out that such conservation practices as broad-base parallel terracing, mulching, crop rotations, etc., not only are reclaiming "lost acres" but also are making practical the use of modern machinery and techniques.

Parallel terracing eliminates short rows and frequent "turnarounds" which limited use of tractor power equipment where contour farming was practiced. Parallel terraces necessitate a number of initial land forming operations such as planing and leveling and some maintenance but are considered well worth the additional outlay in time and expense.

The mechanization conference, Aug. 22-24, is being sponsored by the National Cotton Council in cooperation with the University of Georgia, Farm Equipment Institute, Cotton Belt land grant colleges, U.S. Department of Agriculture, and other groups.

RESEARCH EXPANSION

ST. LOUIS, MICH.—An expansion in the company's research facilities has been announced by Michigan Chemical Corp. of St. Louis, Mich. This consists of a series of new laboratories to be used expressly for research and production control of products and processes of the company's rare earths business.

"In the citrus belt, we're sold on fertilizer in Multiwalls"

**F. M. Hahs, citrus grower,
Land O'Lakes region, Fla.**

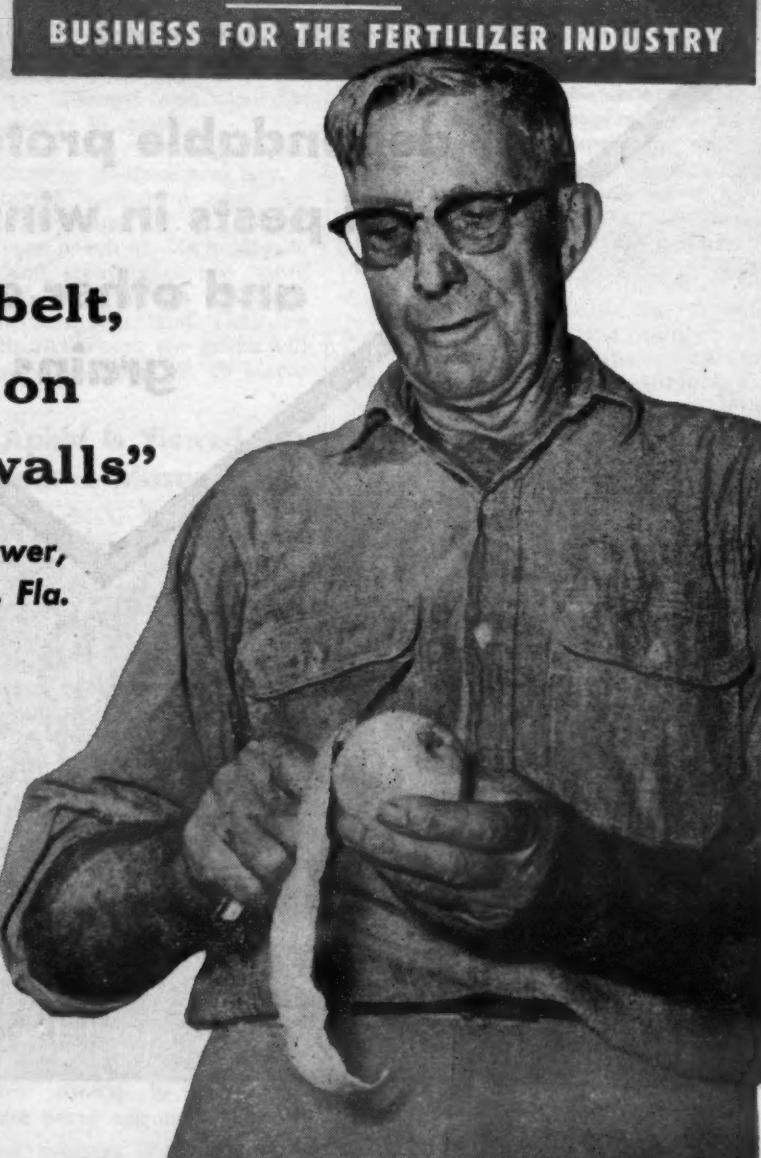
"When you open up an orange like this one," says Mr. Hahs, "you see—and taste—what good fertilizer can do. I've been sold on fertilizer for 33 years, but it's never been as easy to handle as it is now that it comes in Multiwall bags."

Welcomes fertilizer tips from Union Bag

This veteran citrus grower, who recently won a \$500 award as the "longest steady customer" of the Gulf Fertilizer Company of Tampa, operates his 29-acre citrus farm along scientific lines. He is an interested reader of tips on fertilizer application that come to him through Union Bag's countrywide information program. Union-sponsored features on fertilizer use are seen or heard in newspapers and magazines, and on radio and television stations.

Most growers and farmers, like Mr. Hahs, find Multiwall paper bags, as made by Union Bag, the most efficient containers for fertilizer. Tight and clean, Union Multiwalls are easy to handle, stock and store; do a real job of selling your brand name. They spell satisfied farm customers for fertilizer manufacturers and dealers, contribute handsomely to a steadily increasing volume of fertilizer sales.

It's good business to use Union Multiwalls, made by a company that works actively to create good business for you.



"Union Bag's Information program helps sell more fertilizer because it shows farmers how to use fertilizer more efficiently."

Mr. R. R. Reed, Sales Manager, Gulf Fertilizer Company, Tampa, Florida.

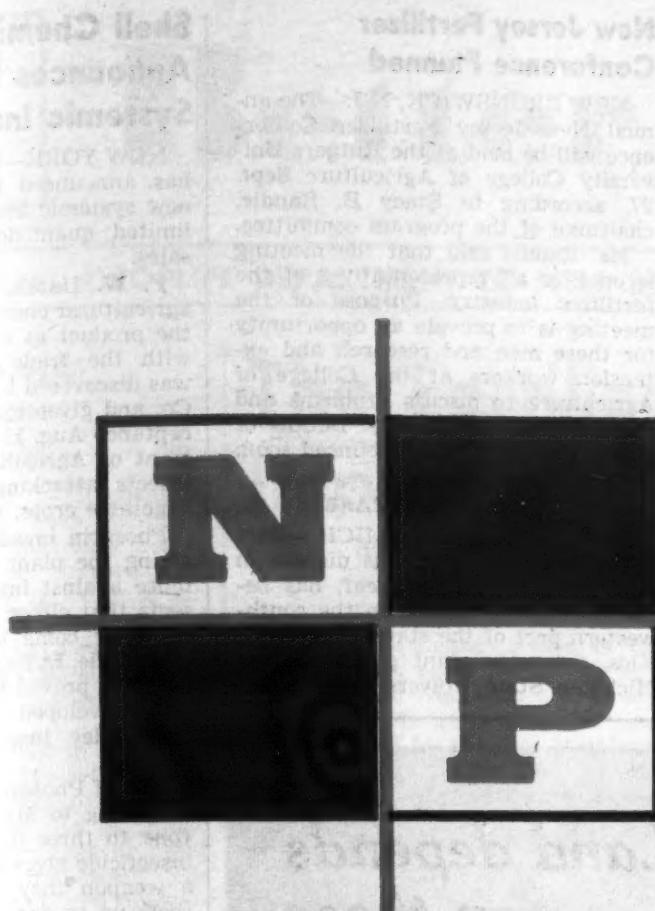
The Gulf Fertilizer Company, which has served Florida for 54 years, packages many fertilizers in Union Multiwalls.



UNION Multiwall Bags



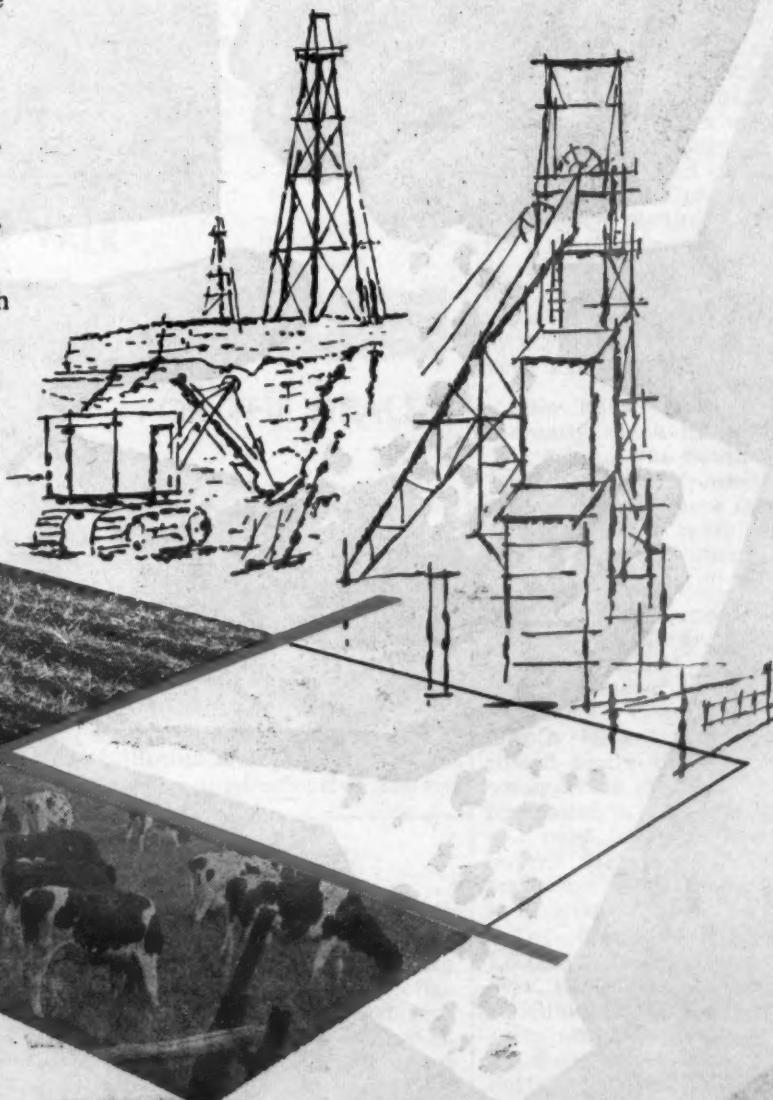
UNION BAG & PAPER CORPORATION • WOOLWORTH BUILDING, NEW YORK 7, N. Y.



a joint venture in Potash

A new, substantial and dependable source of potash for fertilizer manufacturers is being developed by National Potash Company in New Mexico.

National Potash is a joint undertaking of Pittsburgh Consolidation Coal Company and Freeport Sulphur Company. The former is one of the nation's major coal firms, the latter a leading producer of sulphur with additional interests in oil and other minerals. The skills which they bring to the mining, refining and marketing of potash assure top quality, uniformity and service.



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POTASH COMPANY**

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TULSA
WICHITA

Ranchers Wage Fight Against Sagebrush

SACRAMENTO, CAL.—Ranchers in northeastern California are watching with interest the air offensive on sagebrush being conducted in remote and rugged Sierra Valley of Plumas and Sierra counties.

Using spray in which 2,4-D is the principal ingredient, Ira B. Seiden, operator of an agricultural aviation service at Rio Vista, California, is conducting the offensive. In the first commercial application in the area, his planes covered about 1,000 acres owned by five ranchers who pooled their resources with an assist from the Plumas County Agricultural Conservation and Stabilization Committee.

The per acre cost has been estimated at \$5.00 as contrasted with \$15.00 to \$20.00 per acre for grubbing the land by machine.

The soil in the area is rich and

produces good crops. However, during the drouth period in the 1920's and the depression period in the 1930's, much of the land was not cultivated and sagebrush took over. Ranchers who are operating in the area have waged a continual battle with the sagebrush encircling their acreages.

New Wichita Firm Opens for Business

WICHITA, KANS.—The Crown Chemical Corp. has opened for business here at 349 N. Water. The Wichita business corporation was formed about a month ago with William C. Johnson, former head of Jonsco Distributors Co., as president.

The new firm's formation was a result of the expansion of the supply division of Zelinkoff Manufacturing Co. Milton A. Zelinkoff, president of the manufacturing concern, maker of cotton and cellulose products, is vice president of the new corporation.

New Jersey Fertilizer Conference Planned

NEW BRUNSWICK, N.J.—The annual New Jersey Fertilizer Conference will be held at the Rutgers University College of Agriculture Sept. 27, according to Stacy B. Randle, chairman of the program committee.

Mr. Randle said that the meeting is open to all representatives of the fertilizer industry. Purpose of the meeting is to provide an opportunity for these men and research and extension workers at the College of Agriculture to discuss problems and review new developments. Details of the program will be announced soon.

ORCHARD DISEASE

BENTON HARBOR, MICH.—Bacterial leaf spot, a serious disease in Michigan peaches last year, has begun infecting orchards in the southwestern part of the state, reports Ed Klos, extension plant pathologist at Michigan State University.

Shell Chemical Announces New Systemic Insecticide

NEW YORK—Shell Chemical Co. has announced that it will have new systemic insecticide available in limited quantities for late summer sales.

F. W. Hatch, Shell's manager of agricultural chemical sales, described the product as an organic phosphorus compound with the trade-named Phosdrin. It was discovered by Shell Development Co. and given experimental label acceptance Aug. 13 by the U.S. Department of Agriculture for use against insects attacking certain fruit and vegetable crops, he said.

Phosdrin invades a plant's system giving the plant its own built-in defense against insects. It will kill insects that either tap into the tree or plant or come in contact with the insecticide. In field experiments, Phosdrin has proved lethal to insects that have developed a tolerance for certain older insecticides, Mr. Hatch said.

One of Phosdrin's chief advantages, according to Mr. Hatch, is its rapid (one to three days) dissipation. The insecticide gives farmers and growers a weapon they can use against insects up to one to three days before harvest, he said. Within that time Phosdrin will have killed the insects and the insecticide on the plant will have dropped below the temporary tolerance established by the Food and Drug Administration, for experimental sales, Mr. Hatch said.

Shell Chemical plans to have the product available in limited quantities for late summer and fall crops. It will be sold by formulating companies in emulsifiable, dust and granular forms.

Medfly Spray Plane Crashes in Florida

BOCA RATON, FLA.—Five occupants of a twin-engine spray plane were killed near here Aug. 8 when the craft, being used for control of Mediterranean fruit fly, crashed and burned while coming in for a landing at the Boca Raton airport. Cause of the crash was not immediately determined.

Pilot of the plane was Bill D. and co-pilot, Harrell Rowley, both employees of United-Heckathorn of Richmond, Cal., owner of the plane which was one of a fleet spraying a large portion of southern Florida in an effort to eradicate the Medfly.

The plane was a twin-engined Flying Boxcar type which could cover large areas in its spraying activities. On the morning of the crash, it was scheduled to spray insecticide over Delray Beach and Palm Beach.

Fertilizer Dealers Get Prizes for Taking Part in Fall Fertilizer Sales

KANSAS CITY, MO.—Fertilizer dealers from Kansas, Missouri and Nebraska received top prizes in the Spencer Chemical Co. "Fall Application Sweepstakes," completed recently. Held as part of the company's Fall Application sales campaign, the "sweepstakes" drew over 900 entries from a 10-state area.

First prize of an eight-day, expense-free trip to Mexico for two was awarded to Mr. Charles Geiger, owner of the Farmer's Elevator in Ottawa, Kan. Mr. and Mrs. Geiger are tentatively scheduled to leave by air sometime in September on the trip which will include stops in Mexico City and Acapulco.

Second prize of a 21-inch television set went to Oral Robison, owner of the Robison Elevator in Lathrop, Mo. Third prize, a portable drill kit, went to Eldon Grove, manager of the Cadams Grain and Lumber Co. in Cadams, Neb. In addition, 100 other prizes were awarded.

Better Selling

Richer
Fields for
Dealers

A SPECIAL CROPLIFE DEPARTMENT TO HELP RETAILERS IMPROVE MERCHANDISING KNOW-HOW

Fertilized Pastures Give Big Summer Gains to Calves

DULUTH, MINN. — Renovation, lime and fertilizer have increased summer gains by almost 60% in twin dairy calves at the University of Minnesota's branch agricultural experiment station here.

That's what Wallace Nelson, northeast branch station agronomist, told farmers at the station's annual field day.

Mr. Nelson said that in a pasture study last summer, five sets of identical twin calves were pastured on eight plots. Four of the plots had received no fertilizer, lime or other improvement since the 1930's. The other four, though, had been renovated and treated with 4 tons lime, 175 lb. of ammonium nitrate and 130 lb. of 30-30 per acre last spring and 100 lb. of ammonium nitrate in August.

One of each set of twins was put on the unfertilized pasture and the other on the fertilized plots from June 23 to Sept. 13. The fertilized plots and the unfertilized areas each totaled .96 acre.

Total gain on the fertilized pasture was 395 lb. for 282 calf-grazing days. Mr. Nelson compared that to only 250 lb. of total gain in the same number of grazing days on the non-fertilized areas.

Average daily gain for each calf was 1.4 lb. on the fertilized plots, compared to .89 lb. on the unfertilized pastures.

Both groups of plots were clipped just before pasturing, Mr. Nelson said, and the fertilized pastures again came out on top—2.62 tons of 15% moisture forage per acre from the fertilized plots and 1.43 tons from the unfertilized pasture plots.

In other field day reports, Mr. Nelson explained how important lime and fertilizer are for producing alfalfa. Unlimed and unfertilized plots at the station last year yielded only 1.9 tons of alfalfa per acre, he said. But where the fields got 10 tons of manure, 40 lb. of superphosphate per acre and plenty of lime, the alfalfa yielded 3.49 tons per acre—almost twice as high as for the untreated plots.

University of Minnesota agronomists reported that four chemicals gave good quackgrass control on potato plots at the Duluth station. Chemicals used were dalapon, CMU, amino triazole and maleic hydrazide.

HELPS BUILD PROTEIN

"Fall fertilization has some distinct advantages, particularly for crops that are perennial and pass through the winter. As the days become shorter, the extra nitrogen and the extra fertility will help to build protein. The extra protein means less winter starvation so commonly misinterpreted as winter killing. Shortening days that reduce the rate of carbohydrate production will encourage the absorption of the fertility all the more, because roots high in protein will be much more efficient in taking up the fertilizer than are roots that are filled with carbohydrates and growing so profusely." —William A. Albrecht, chairman, department of soils, University of Missouri, Columbia.

The Fertilizer Dealer's Part in Improving Nebraska Agriculture

By R. A. OLSON
University of Nebraska

EDITOR'S NOTE

The accompanying article is the text of a talk given by R. A. Olson, University of Nebraska soils scientist, at the "Wheat Belt Special" dinner sponsored by the Olin Mathieson Chemical Corp. in Omaha in June. Occasion of the dinner was the arrival in Omaha of a 68-car train load of Olin Mathieson plant food.

* * *

Everyone agrees that problems exist in the agricultural field today. But there have always been problems in agriculture just as in all other great industries. Drought recently has made a serious contribution to these problems. This is nothing new to us in this region; it has occurred before and it will occur again. Many Nebraska farmers have been dodging this issue by establishing an irrigation regime, but of course this practice cannot be applied to all of our farm lands—the water available couldn't possibly reach around.

The average farmer, then, confronted with the situation of low value of agricultural products in comparison with non-agricultural commodities must increase efficiency in production. This is the same charge that confronts any industrialist whose product is not competitive. Many will never achieve the required efficiency and naturally will fall by the wayside. Those who are inclined to look at farming as a way of life feel that this should be prevented, but do not say the same for the inefficient business man who is forced to close his doors.

In my humble opinion the gentleman who stated, "A nation is made great not by its acres, but by the men who cultivate them" knew precisely of what he spoke. Our midwestern farmers are a hardy and progressive lot and will, I am sure, respond to the challenge. Given time and technical assistance, they will make the necessary changes to become fully competitive, and without excessive government intervention. By working out its own problems in its own way,

agriculture will be strengthened in the long run, as will our entire great democracy.

Today, all of us involved in service to agriculture, including the dealer in agricultural chemicals, are confronted with a sizeable task of educating our rural brothers and bringing them up to present day agricultural technology. In many situations we are having to re-educate them, reorienting or dispensing with principles now unacceptable which once were thought sound. Dealers in agricultural chemicals are on the daily firing line and are in a prime position for disseminating information that will improve farming efficiency in their respective areas.

It has been my privilege to observe the results of a revolution in agriculture that has occurred in our southeastern states of the U.S. during the past decade. My previous acquaintance with the backwoods areas of these states gave me full acceptance of the hillbilly characters of the comics as fact and not fantasy. Today there are countless outstanding farmers making a good living on the poor land in this region, and most of the remainder are beginning to follow the leaders. The rural folks of this region are picking themselves up by the bootstraps, and with the primary aid of fertilizer.

Our midwestern soils were inherently much more fertile than the soils of the Southeast, but today we are confronted with large areas of land where farming could be on nothing more than a subsistence basis without the use of fertilizer.

Some of you have the feeling that the bottom has dropped out of the fertilizer market in Nebraska this year because of the drought we have experienced. Concentrated sales where drought is not a factor, however, should easily allow for a continued consumption of 200,000 tons of fertilizer total in the state. The industry will need to realize that it is in a buyer's and not a seller's market, and some good, sound salesmanship is in order.

Let's first look at our approximate 1,600,000 irrigated acres scattered over the state. All crops and soil conditions considered, it would not seem out of line to expect a fertilizer requirement of the proper nutrient(s) of at least 150 lb. for the average acre of this land, or a total of 120,000 tons of fertilizer. This estimate is conservative, because we now speak in terms of eight tons of alfalfa on some of these lands—that is approximately 80 lb. P₂O₅ per acre removed: 150 bu. of corn removes at least 150 lb. N per acre if the stover is returned to the soil. Replenishment in these cases would require 200 lb. conc. superphosphate and about 450 lb. ammonium nitrate per acre, respectively.

Next, look at our summer-fallow wheat production area in the western half of Nebraska. With the fallow practice for moisture storage, there is adequate soil moisture for near optimum wheat yields throughout much

SHOP TALK

OVER THE COUNTER

FOR THE DEALER

By EMMET J. HOFFMAN
CropLife Merchandising Editor

Farmer meetings rank high as aids in promoting the adoption of improved fertilization practices by farmers. In a survey in which 76 wholesale distributors of fertilizers participated, farmer meetings ranked first (28% of the total replies) as a method for promoting the adoption of better fertilization methods.

Other activities were ranked by the distributors in the following order: Demonstration plots 25%, field trips 18%, dealer meetings 11%, help with farmers' soil tests 7%, fertilizer schools for dealers and farmers 7%, radio programs 2% and bulletins and pamphlets 2%.

It is interesting to note that six of the eight most effective activities involved personal contact with the farmer. As expected, personal contact seems to result in more and faster changes than the impersonal types of activities.

Suggested Postcard

Farmer meetings may be announced by mailed postcards, supplemented with newspaper and radio advertising. A popular form of meeting announcement is the "who, what, where" type of postcard. This method has the advantages of being brief, to the point and can be conveniently saved by the farmer as a reminder. Here is how the postcard announcement might be worded:

Date

Dear Sir:

What is it? It is a meeting of fertilizer folks and their farmer friends.

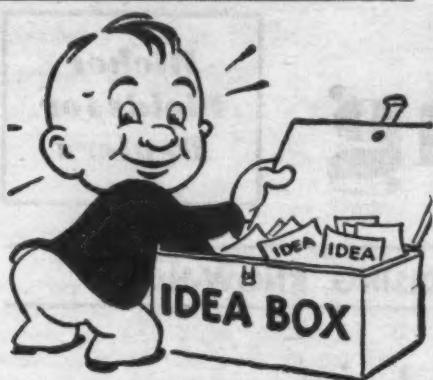
Where is it? In the Vocational Agricultural Room, Farmville High School, Farmville, U.S.A.

What time? 7 p.m., Tuesday night, November 20, 1956.

Refreshments? Yes, sir. Coffee and doughnuts.

What's the program? All about fer-

(Continued on page 16)



What's New...

In Products, Services, Literature

You will find it simple to obtain additional information about the new products, new services and new literature described in this department. Here's all you have to do: (1) Clip out the entire coupon and return address card in the lower outside corner of this page. (2) Circle the number of the item on which you desire more information. Fill in your name, your company's name and your address. (3) Fold the clip-out over double, with the return address portion on the outside. (4) Fasten the two edges together with a staple, cellophane tape or glue, whichever is handiest. (5) Drop in any mail box. That's all you do. We'll pay the postage. You can, of course, use your own envelope or paste the coupon on the back of a government postcard if you prefer.

No. 6452—Brochure

A 12-page illustrated brochure that gives information for help in controlling flies, mosquitos and other insects has been released by the Chemical Insecticide Corp. The brochure describes Chem-Hex T, trade name for a newly developed formulation, that contains both pyrethrum for quick kill and a neutralized form of benzene hexachloride for residual kill. It gives instructions for the use of the product in all types of sprayers and reports on its effectiveness in field tests. Secure the brochure by marking No. 6452 on the coupon and mailing it to

No. 6454—Dispersant Bulletin

A seven-page technical bulletin No. 306 describing the use of Polyfon, sodium lignosulfonate as a moderately active dispersant in wettable insecticide powders has been published by the Polychemicals division, West Virginia Pulp & Paper Co., and is available upon request. The product is made in five grades varying in degree of sulfonation. Three of the grades are said to be widely used as dispersants for wettable powders. The firm's announcement states that "there are numerous other commercial and potential applications for the various grades of Polyfon where a dispersing agent of moderate activity is required." The bulletin describes

the product in more detail and lists some of these uses. The bulletin describes properties of the product and gives instructions for preparing insecticide wettable powders. Among the formulations given are those for DDT, dieldrin, aramite, heptachlor, toxaphene and malathion. The product has also been used successfully in making wettable powders with chlordane, BHC, parathion, aldrin and Diamond Alkali K-101, it is announced. Secure the bulletin by checking No. 6454 on the coupon and mailing it to Croplife.

No. 6456—Fertilizer Handbook

A handbook on fertilizer management has been printed by the Kansas City Testing Laboratory as a service to fertilizer dealers and their customers and is available at a nominal cost. The 26-page booklet is a project of the soil consultant division of the 47-year-old company which was established recently to act as a completely independent soil testing facility for agricultural interests primarily in the Midwest. Several chapter headings include "General Management of Soils," "Meaning of Soil Test Values and Fertilizer Suggestions," "Fertilizer Recommendations for Various Crops" and "How to Get the Fertilizer Management Program for Your Farm." The booklets not only are suitable as a guide to dealers but

may be obtained at a nominal cost for dealer customers. The firm also offers a soil sampling program for dealers. More complete details may be had by circling No. 6456 on the coupon and mailing it to Croplife.

No. 6455—Product Bulletins

The American Potash & Chemical Corp. has issued informational product bulletins on the series of electrochemicals produced at its Henderson, Nevada, plant including sodium and potassium chlorate, ammonium and potassium perchlorate and manganese dioxide. Bulletins on the company's chlorates and perchlorates are intended for use by manufacturers of weed killers, defoliants and other industries. The bulletins include analysis, description and applications in various manufacturing processes of the company's electrochemicals. Secure the bulletins by checking No. 6455.

Send me information on the items marked:

- | | |
|---|---|
| <input type="checkbox"/> No. 5506—Conveyor | <input type="checkbox"/> No. 6449—Soil Sterilant |
| <input type="checkbox"/> No. 5509—Tall Gate | <input type="checkbox"/> No. 6450—Granulation Unit |
| <input type="checkbox"/> No. 5415—Farm Scale | <input type="checkbox"/> No. 6451—Irrigation |
| <input type="checkbox"/> No. 5416—Manlift Bulletin | <input type="checkbox"/> No. 6452—Brochure |
| <input type="checkbox"/> No. 6443—Soil Fumigant | <input type="checkbox"/> No. 6453—Insect Handbook |
| <input type="checkbox"/> No. 6444—Potash Booklet | <input type="checkbox"/> No. 6454—Dispersant Bulletin |
| <input type="checkbox"/> No. 6445—Containers | <input type="checkbox"/> No. 6455—Product Bulletin |
| <input type="checkbox"/> No. 6446—First Aid Catalog | <input type="checkbox"/> No. 6456—Fertilizer Handbook |

NAME

COMPANY

ADDRESS

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Minneapolis 1, Minn.

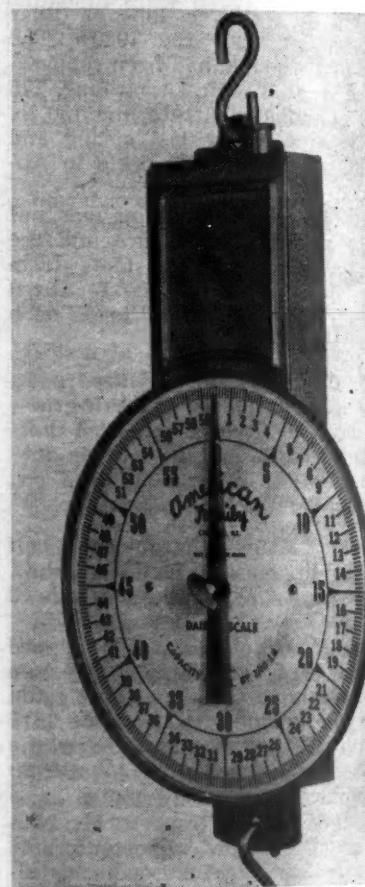
ers, corn insects, forage legumes, soybean and small grain pests and sorghum insects. The handbook is intended for use by the farmer in controlling various insects. For price and other information check No. 6450 on the coupon and drop it in the mail.

No. 5416—Manlift Bulletin

Construction features and applications of the company's manlift inter-floor transportation are described in a new bulletin prepared by the Allis-Chalmers Manufacturing Co. The manlift is also designed to convey bags and other packed materials and can be furnished with steps and bag carriers alone or in combination. The bulletin is available without charge. Check No. 6451 on the coupon, clip and drop it in the mail.

No. 5415—Farm Scale

A newly-designed farm scale suitable for handling by feed dealers has been designed by the American Family Scale Co. for dairy and poultry farmers and other general users. The scale is claimed to have an eas



Also Available

The following items have appeared in the What's New section of recent issues of Croplife. They are reprinted to help keep retail dealers on the regional circulation plan informed of new industry products, literature and services.

No. 6450—Granulation Unit

A new brochure describing the Feedco granulation unit manufactured by the Fertilizer Engineering & Equipment Co., Inc., is available without charge. The brochure describes the general operating features and flexibility of the dryer-cooler combination unit, as well as general specifications and installation notes. The unit includes dryer drum, spur gear drive, trunnion base, heavy duty bearings and chilled wheels, hammer lifts, hammers, intake and discharge hoppers, heavy steel framework, cooler drum with drive, high capacity-low velocity fans, ductwork, cyclones, necessary support steel and high resistance type pyrometer with six-point selector switch. Over-all length of the unit is 32½ ft. The brochure will be mailed if you will check No. 6450 on the coupon and mail it to Croplife.

No. 6453—Insect Handbook

A publication called "Insect Control Handbook" has been prepared by Successful Farming magazine for dealer distribution. Quantity orders will be accepted and for a nominal charge the name of the company can be imprinted on the back cover. The handbook was written by J. H. Lilly, Iowa State College, for the magazine's publisher, the Meredith Publishing Co. Included in the handbook are sections devoted to general feed-

adjustable pointer to make quick allowances for tare weight of weighing trays, milk pails and feed containers. Capacity is 60 lb. by 2/10th lb. plus 15-lb. allowance for tare weight, or a total of 75 lb. Trade-named the American "75," it has a white dial face with a diameter of 7 in. and large numbers. The finish is Hammertone and all working parts are specially treated to prevent rust. Secure more complete details and information about distributorships by checking No. 5415 on the coupon, clipping and mailing it to this publication.

No. 6451—Irrigation

A new booklet, "Farm Irrigation in Michigan - Pennsylvania - Ohio," has been published by Capper-Harman Slocum, Inc., and is available without charge. Figures concerning crop production, irrigated acreage and pasture land are the latest available for the three states, according to the company's announcement. To secure the booklet check No. 6451 on the coupon and mail it to Croplife.

No. 6445—1-Ton Shipping Containers

A new 24-page booklet describes 1-ton shipping containers produced by the Columbian Boiler Co., Steel Plate Fabricating division, for handling liquefied and compressed gases and chemicals such as liquid chlorine

Better Selling

Richer Sales Fields for Dealers

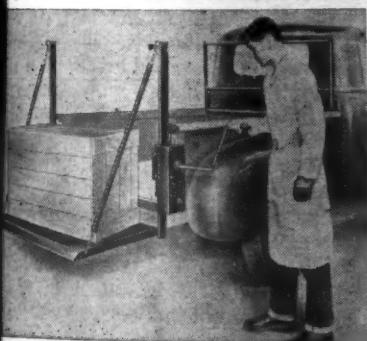
published by Stauffer Chemical Co. The leaflet details the types of pests which the water-soluble soil sterilant will control and how it may be applied by hand, sprinkler, injection, plow sole and in irrigation waters on soils for preplant treatments of seed beds, potting soil, ornamentals, nursery stock, field crops, row crops, orchards, vineyards, turfs and lawns. Copies are available without charge. Check No. 6449 on the coupon and mail it to Croplife.

No. 6444—Potash Mining Booklet

The National Potash Co. has prepared a booklet describing its project to produce potash near Carlsbad, N.M. Titled, "A Basic New Source of Basic Plant Food," the booklet tells how the company will begin mining in January, 1957, muriate of potash in its \$19,000,000 plant with an annual capacity of 400,000 tons. Also described is the company's offer of assistance in the form of free technical service to assist fertilizer manufacturers in the problems of granulation and in other production difficulties. The booklet may be secured by checking No. 6444 on the coupon and mailing it to Croplife.

No. 5509—Elevating Tail Gate

Mid West Body & Manufacturing has announced its new "Jiffy-Lift" elevating tail gate for pickup and



express truck bodies. The product is completely "packaged" kit, ready to install. It weighs 175 lb. and only six bolts are needed for installation. The all-steel, ramp-type elevating tail gate has a capacity of 600 lb. The patented design features a lifting mechanism, having ball bearings throughout for easiest operation, company spokesmen say. Secure more complete details by checking No. 5509 on the coupon and mailing it to this publication.

No. 6446—First Aid Catalog

A new 6-page first aid catalog is available from the E. D. Bullard Co. With it comes a card titled, "Instant Guide to First Aid." It contains information on first aid treatments and folds to fit into a wallet or purse. The catalog contains a listing of over 100 unit packs, photographs of kits, catalog numbers and descriptions of kits and units for ordering purposes. Check No. 6446 on the coupon and mail it to secure the literature.

No. 6449—Soil Sterilant

A six-page leaflet which outlines the various methods by which the soil sterilant, trade-named Vapam, may be used to destroy weeds, fungi, nematodes, and soil insects has been

published by Stauffer Chemical Co. The leaflet details the types of pests which the water-soluble soil sterilant will control and how it may be applied by hand, sprinkler, injection, plow sole and in irrigation waters on soils for preplant treatments of seed beds, potting soil, ornamentals, nursery stock, field crops, row crops, orchards, vineyards, turfs and lawns. Copies are available without charge. Check No. 6449 on the coupon and mail it to Croplife.

No. 5506—Conveyor

A new bulletin by Alvey Conveyor Mfg. Co. describes the application of its automatic Vertical Reciprocator conveyor for use in multi-level handling of palletized cases. The unit is

self-loading and self-discharging. It automatically transfers palletized cases up or down, to any predesignated floor level, it is claimed. Complete controls and safety devices are incorporated in a fully integrated installation, the bulletin points out. The four-page illustrated bulletin, No. ALV-130, will be mailed without charge if No. 5506 is checked on the accompanying coupon and mailed to this publication.

No. 6443—Soil Fumigant

A product, called by the trade name, Vapam soil fumigant, is being offered by the Du Pont Company. According to company spokesmen, the chemical when applied to moist

soil before planting, forms vapors which kill or suppress many types of undesirable organisms, including weed seedlings, certain soil insects, fungi and nematodes. It is recommended as a pre-planting treatment for soil in plant propagation beds (ornamentals and vegetables), in new turf areas and in fields for ornamental plants. The product can be mixed with water and applied as a surface spray with a sprinkling can, hose proportioner or overhead sprinkler. Additional wetting after application seals the chemical in the soil. It may also be placed at depth in the soil by being sprayed on the plow sole or injected with standard fumigation equipment. To secure more complete details check No. 6443 on the coupon and mail it to Croplife.

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Doing Business With

Oscar & Pat



By AL. P. NELSON
CropLife Special Writer

Two men sat at desks facing each other in the railed-in open area office of Schoenfeld & McGillicuddy, farm chemical store. One was tall, bushy haired and blue eyed Pat McGillicuddy, descended from Dublin, Ireland, stock. His desk—the back of which touched the back of the other desk—was cluttered with magazines, clipped ads, manila filing folders,

magazines, a newspaper or two and a half empty coke bottle.

Pat was thumbing through some farm magazines, and it was evident that he was concentrating upon that reading. In fact, he seemed oblivious to the presence of anyone else at the moment.

The man across the desk from him, Oscar Schoenfeld, his German descended partner, he of the balding head and rotund belly, of sharp eye and tight set of mouth, was not concentrating, although ostensibly he was busy figuring discounts. Oscar, always one to make the most of time, was irritated with his partner, and this irritation impaired his figuring ability at the moment.

Oscar was irritated at Pat because the latter was apparently wasting his time reading magazines during the business day. His desk was also littered (it should be neat and orderly like his, Oscar's desk) and last, but not least, a long list of delinquent accounts lay on the corner of Pat's desk, accounts which it was his duty to collect—but instead Pat was reading a magazine.

Oscar's stomach had tightened so

much that he got a pain right below the last rib on the right side. It was his liver and gall bladder acting up again, and if it continued he would be unable to do justice to the spare-ribs and sauerkraut dinner which his wife Minnie was preparing for this evening. And Oscar liked sauerkraut.

"I knew it!" Pat exclaimed suddenly. "And this article proves it."

Oscar frowned. "Proves what?"

"That super markets are gradually getting a larger share of the garden insecticide business," Pat said. "Emmet Hoffman, CropLife merchandising editor says so. He reports a survey of super market stocks made by a big advertising agency. Those super markets are horning in on our business."

Oscar shrugged. "Ach, let them," he said. "They will soon get tired of it when people ask so many questions on how to use them. Let's tend to our own business."

Pat looked soberly at his partner. "No, we want that business, Oscar. Every time a farmer buys some insecticide at a super market, he cuts out a visit to our store. We want him here to buy all his insecticide, and then maybe we can sell him a hand or power sprayer besides."

"Ach," Oscar said, with a look at the delinquent list on Pat's desk. "If he owes us money already we do not want to sell him a sprayer. We have to wait too long for our money the way it is."

Pat shook his head. "You worry too much about collections, Oscar. I heard the other day that 98% of the people pay their bills on time. It is only 2% you have trouble collecting from."

"It must be close to 50% for us," Oscar said sarcastically. "And it will soon be 75% if you don't get after some of them on that list."

Pat apparently had not heard this last crack. He got up and reached for his Panama. In contrast, Oscar's seven-year-old faded and yellowed sailor hat looked vastly out of date. "I'm going down to visit those three super markets," Pat announced. "I've got to see for myself how much insecticide they sell, and what they've got we haven't got. I might learn something."

Oscar paled at this seemingly further waste of time. "How—how about those collections?" he asked sharply.

"Oh, I'll make those tomorrow," Pat said. With a wave of his hand, he went out the door.

"Ach, tomorrow! Tomorrow! Always it is tomorrow." Oscar bit his lips. "Tomorrow we may be broke, or bankrupt. What will he do, then, dumbkopf?"

"Careful, Oscar," cautioned Tillie, the plumpish bookkeeper. "Don't get so worked up, or you might get an ulcer like me."

Oscar winced as a pain shot through his liver. "Ulcer!" he muttered. "I am lucky to be alive, with a man like that for a partner. Himmel!" And he walked into the warehouse.

In an hour Pat was back, his blue eyes glowing. "Oscar," he said, "we are going to fight fire with fire."

"Fire!" echoed Oscar coldly. "We have too much fire insurance now. And not enough in mutual companies, where the rate is lower."

"No, I mean we'll fight for more in-

CROPLIFE, August 20, 1956

secticide business. Against the super. I've got it all figured out."

"You have, eh?" Oscar said sarcastically. "And I will bet it costs us plenty."

"Farmers and their families come to shop every Friday night because the stores are open until 9," Pat said enthusiastically. "We will advertise in Thursday night's paper that we offer farmers and their wives free coffee from 5 until 9 p.m. That will bring them over here—because farmers like free coffee. And we will sell them insecticide. Then when they go to the super, they won't need any insecticide. We've got to get them here first every week!"

"With just coffee!" Oscar was incredulous.

"Well, maybe we will give the cookies, too. Nora can bake some, and Minnie can, too. Then it won't cost us so much. We'll put the coffee up—I can borrow one from the church for a few weeks—right in the aisle between two islands of insecticide. We'll have displays and selling signs, and as farmers drink their coffee they'll see insecticides all around them. How can they help but buy? Of course we'll mention the products to them, too. And hand out power sprayers."

"The cost! The cost!" Oscar almost yelled. "They'll eat us out of house and home."

Pat shook his head. "Two pounds of coffee—about \$2.10 every Friday night—and \$2 worth of cookies, ought to do it. That's cheaper than many promotions."

"That much for coffee!" shouted Oscar. "That's the best—to give away free. Minnie and I buy Poor Man's Delight at the Cut Rate Grocery. It's only 89¢ a pound."

Pat shook his head. "No, we've got to give the farmers the best coffee we can buy—otherwise they won't come back the second week. And if they don't come back again, we won't get a chance to sell them something else." Pat walked to the water cooler, got a drink, then went into the warehouse.

Oscar put his hands to his ears and stared at Pat's messed up desk, stacked high with unread, unfiled magazines, newspapers and other things.

"Ach, I cannot understand it," he muttered. "This crazy idea that you have to give, give something away all the time, just to sell something. Why can't we just sell, sell, sell, and get paid in cash—like it was in the old days. I liked that. Now—" he broke off, then took a copy of CropLife and looked in the classified section.

In moments of deepest frustration he always did this. Someday he would find an ad about some dealer in a small town who wanted to sell his fertilizer store and business—cheap. Then maybe he would take a chance and buy it and run it himself. It was a dream Oscar always had, to have his own store. But somehow he was afraid. Why was he afraid? It was this fear which had kept him from answering many of these ads. But someday—when Pat pushed him a little too far—someday—

Residual Effect Of Fertilizer Shown at Missouri Field Day

COLUMBIA, MO.—According to information given visitors at the University of Missouri soils and crops field days, fertilizer applications made on drought-stricken crops the past few years have not been wasted. George Wagner, university graduate student in soils, told those making tours during the field days that test work shows the influence of fertilizer residues.

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FARM SERVICE DATA

Extension Station Reports

W. N. Bruce of the Illinois State Natural History Survey, Urbana, has developed a fly control method of using malathion strips instead of a spray. He says to make this fly killer, mix 1/4 tablespoons of malathion and 1/2 tablespoons of starch with a quart of corn syrup. Soak a cloth strip about 2 in. wide in the mixture, let dry and hang it from the ceiling. Place it in swarms of flies.

Oats silage, however, is considerably lower in high-energy grain content than either corn or grain sorghum silage, Dr. Neumann says. Hence it is not as well suited for fattening heavy cattle, or for limited-grain fed cattle.

Putting oats up as silage means

legume-grass silage for anything but full-fed fattening cattle.

In trials to keep strawberry runners from spreading, Iowa State College researchers sprayed the plants with MH-30, a growth inhibitor. Three sprays—in late July, mid-August, and early September—controlled runner growth through the season when the chemical was applied at a rate of one or two pounds per acre in 50 gallons of water. Yield increases ranged from 15 to 30%, with larger berries, and the chemical spray was considerably faster than hand labor. The researchers cautioned, however, against using the chemical on everbearers and spraying spring bearers before harvest.

Virtual 100% kill of yellow rocket weeds was obtained at Benton Harbor, Mich. on each of three experimental plots using the chemical, MPC.

The three rates of application, one-half, three-quarters and one pound of MPC per acre, gave similar results, reports James P. Hoekzema, Berrien County cooperative extension agent. The experiment was conducted on the Charles Fisher farm.

Mr. Hoekzema said the yellow rocket weed is becoming such a major pest in forage crops in the area that spray control will become a regular practice. MPC must be applied in the late fall when the legume is dormant, he said.

A Wisconsin soils scientist reports that a thimbleful of fertile soil can contain more than 2½ billion beneficial bacteria—or a number greater than all the people on earth today. Prof. Emil Truog, at the University of Wisconsin, says that without these beneficial bacteria, the soil would become stagnant and dead.

"These micro-organisms give life to a soil," says Prof. Truog. "They help make nutrients available to plants. They produce substances which promote a desirable granular condition in soils."

Prof. Truog points out that organic matter in the soil is the main food that nourishes these billions of micro-organisms.

Organic matter, he says, is sometimes called a "cure-all for sick soils."

Oats can return bigger profits for farmers when the crop is fed as silage instead of harvested as grain, reports the Middle West Soil Improvement Committee, in citing three-year tests at the University of Illinois.

Dr. A. L. Neumann, head of the College of Agriculture's beef cattle division says that oats silage "has come through with flying colors" with every class of beef cattle fed. Cows have ranged from feeding yearlings to steers.

Dr. Neumann reports that oats is equal to or slightly better than

that the crop gets off the ground sooner, Dr. Neumann points out. This gives the legume-grass seedling a better chance for growth. Oats for silage should generally be cut in the early dough stage, he says.

A 60-bu. oats crop returned \$125 per acre when fed as silage to calves in previous reports on Illinois tests, says the Middle West Soil Improvement Committee. If the crop had been harvested as grain, it would have returned \$45 in gross returns, with oats figured at 75 cents a bushel.

Such yields, says the committee, are considerably higher than average. They come mostly from good management practices and the use of plenty of fertilizer, it adds.

Midwestern agronomists list these suggestions for getting money-mak-

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ing oats yields: 1—Lime the soil where needed; 2—Plant approved varieties; 3—Feed the crop with a well-balanced fertilizer containing nitrogen, phosphate and potash; 4—Follow proper tillage methods; 5—Control insects and diseases as much as possible.



More power machinery and improved farm practices plus five times as much fertilizer as 20 years ago have resulted in a 50% increase in agricultural production with 20 per cent less labor.

These figures come from Ermond Hartmans, extension farm management specialist at the University of Minnesota. They show it pays to keep up with advances in farm technology.

To get the most money from the fertilizer dollar, Mr. Hartmans said,

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CROPLIFE, August 20, 1956

three things are important:

1. Without proper drainage crop production cannot reach high levels. Wet soggy fields retard germination, slow growth and encourage weeds to choke and crowd crops.

2. Good tilth is also important. The bulk volume of soil should be about 50% soil, 25% water and 25% air. Good tilth can be maintained by using consistent rotations including legumes and grasses. Returning all crop remains—straw, cornstalks, weeds and manure—to the soil and working them in also helps.

3. Fertility is probably the most important and lack of it is easiest to remedy. Have soil tested and add the required amounts of nitrogen, phosphate and potash.

Mr. Hartmans said it is becoming more and more profitable to use ferti-

lizer. From 1923 to 1955, prices paid by U.S. farmers for commodities used in production, increased about 100%. In this same period, fertilizer prices increased less than 20%.

Even with the large increase in fertilizer use, farmers are replacing only 78% of the nitrogen, 88% of the phosphate and 44% of the potash crops used each year.

In last year's official Minnesota Extra Yield Corn Contest, where unfertilized check plots made less than 60 bu. of corn per acre farmers got back better than \$2 for every \$1 of fertilizer when their total investment was at least \$17 per acre. Mr. Hartmans said at least 50% of fertilizer application is carried over for next year's crop. Then the actual return is \$4 for every \$1 invested.

What's Been Happening?

This column, a review of news reported in Croplife in recent weeks, is designed to keep retail dealers on the regional circulation plan up to date on industry happenings.

The discovery of one Hawaiian Melon Fly in California alerted entomologists in that state to watch carefully for more of this destructive pest. The single specimen, at first tentatively identified by California entomologists as the Hawaiian melon fly, was sent to the Smithsonian Institution in Washington, D.C., where it was identified positively as that pest.

The Great Plains Agricultural Council announced plans to study plant growth and development under varying climatic conditions. Its objectives were described as finding areas with constant climate patterns and studying its influence on specific crops; to classify the areas as to the climatic risks according to specific crops; and to study problems of planning farm organizations under conditions of risks and uncertainties due to climate variabilities.

USDA announced an engineering project to develop radio telephone service to more isolated rural areas. The program was planned by the Department's Rural Electrification Administration and will be carried out in collaboration with private firms under contract with the Department.

Crest Chemical Co., Watertown, S.D., began construction of a \$200,000 fertilizer plant. It will manufacture high analysis grades of granular plant food, according to Marlowe Sharf, president.

The annual fertilizer conference at the University of Kentucky was held Aug. 1, sponsored by the National Plant Food Institute, the Tennessee Valley Authority, and the Kentucky state office of the Agricultural Stabilization and Conservation program. Speakers represented the Institute, TVA and the University of Kentucky in asserting that the fertilizer industry and the U.S. Department of Agriculture's soil bank are acting as strong influences in stabilizing agriculture.

Elko Fertilizer Co. at Elkhorn, Wis., was formed for the manufacture and sale of mixed complete neutral fertilizer solutions and aqua ammonia. Some of the company's products will be mixed with pesticides for control of corn rootworm, according to Nathan J. Eck, Williams Bay, Wis., head of the new firm.

The prospect of corn belt farmers having a considerable amount of "found" money this fall through their participation in the soil bank was discussed by USDA officials early in August. The USDA said that more than \$112 million will be available to farmers before election time in November. The agricultural chemical trade regarded this development as an opportunity to make additional sales in the fall.

The Southwestern Fertilizer Conference at Galveston, Texas July 18-20 heard experts discuss the merits of different forms of fertilizers, and of manufacturing processes.

A triumph in cross-pollination between a wildgrass and wheat, to give the wheat resistance to rust, was announced by the Missouri Agricultural Experiment Station and the U.S. Department of Agriculture. E. R. Searle, plant breeder with the ARS, arrived at the desired objective after crossing and re-crossing different grasses and wheat through five intricate steps.

A fertilizer industry conference held at the University of Illinois on July 26-27 featured speakers who discussed the economics of soil fertility. Sound management practices will increase the need for fertilizers, one speaker declared, while another stated that it is cheaper now to buy nitrogen than it is to grow it through legumes.

The American Potash Institute, Washington, D.C. stated that although final figures on potash deliveries in the U.S. had not been completed (Croplife issue of August 6) little change in tonnages from those of last year were expected. Export figures were expected to be up somewhat, to counterbalance an expected slight decline in domestic sales.

William C. Franklin, Baltimore, Md., was named as acting president of Virginia-Carolina Chemical Corp. by the firm's newly-constituted board of directors. V-C's former president, Joseph A. Howell, was replaced when stockholders of the firm voted against the management in favor of an independent group headed by Rupert T. Zickl, of New York, during a special meeting in Richmond July 18. Six new board members were named and resignations of three old board members were accepted by the new group.

Soil bank agreements for 1956 have indicated broad interest on the part of farmers particularly in the Great Plains and Corn Belt states. Acreage reserve programs of wheat, cotton, corn, rice, peanuts and tobacco may total as much as 6 million acres, according to estimates.

A program featuring panel discussions on what and who influence farmers to buy was announced by the National Agricultural Chemicals Assn. for its 23rd annual meeting at Spring Lake, N.J., Sept. 5-7. The Assn. will elect new officers for the next two-year period.

U.S. Borax and Chemical Corp. announced that as a result of the merger of U.S. Potash Co. and Pacific Coast Borax Co., the new firm will locate its administrative office in Los Angeles in the company's office building, 63 Shatto Place. J. M. Gerstley is president, P. J. O'Brien vice president. J. P. Corkill will head the Pacific Coast Borax Co. Div. and Dean R. Gidney the United States Potash Div.

Facts and figures on fall fertilization—to help manufacturers, distributors and retailers boost autumn business—were presented in a special section of the July 23 issue of Croplife.

Congress was asked for a \$2.5 million appropriation to expand the campaign to control the Mediterranean fruit fly in Florida . . . The J. R. Simplot Co., Pocatello, Idaho, announced the opening of a new phosphate mine on the Idaho-Montana border a short distance west of Yellowstone Park.

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COOPERATES WITH FARM GROUPS

Kentucky Retail Firm Puts Emphasis on Educational Work

When it comes to doing educational work on fertilizer and insecticides, Crafton & Duncan, Henderson, Ky., rank high, and this promotion is helping the firm sell upwards of 2,000 tons of fertilizer annually. The firm also sells feeds and other farm supplies.

Officials of the firm work closely with county agent, extension workers and agricultural instructors in schools in the county as well as with 4-H groups and FFA organizations to disseminate more information about the proper use of fertilizers in raising better and more profitable crops.

For example, says "Cooksie" Crafton, one of the owners, the firm takes stereo pictures in colors of the various stages of growth of crops in the area which have been fertilized. The pictures show proper growth and improper growth, the latter due to soil deficiencies. These slides are then shown at high school ag and other classes, and at other farm group meetings.

During the summer, the fertilizer firm cooperates with farm groups in holding outdoor educational meetings, usually in some grove. The fertilizer firm and fertilizer salesmen usually help county agent and extension workers with talks and charts on plant growth.

One experiment, or showing, which always intrigues farmers is when a stalk of growing corn that has not been properly fertilized is shown. The speaker shows that when corn is short on potash, the first joint plugs up and the blades go out in the form of another root into the ground.

The firm also has three bulk spreaders and has movies and slides of the spreaders in operation. These are shown at farm group meetings to show farmers what a good spread can do in getting equal distribution of straight ingredients or mixed fertilizer.

"This is a day of visual education," reports Mr. Crafton. "You can get our sales story across by means of pictures quicker and better most times than you can by words. The farmer will believe what he sees quicker than what he reads, we have found."

And, of course, at the big Crafton store, there are usually a lot of farmers standing around talking about crops and fertilizers. The officials of the company encourage such visits and chats, for they know that much information valuable to farmers is exchanged in this manner.

Mr. Crafton says that there has been a definite increase in the amount of fertilizer ingredients sold for pasture spreading in the past year. His firm does a great deal of this work. Farmers use phosphate, potash and nitrates as well as some superphosphates for pastures in this area. A lot of 60% potash in bulk is spread on corn land in this area.

On burley tobacco, the 1-2-2 ratio is used namely 5-10-10 with other elements. Tobacco crops have been very good the last few years in this area, with farmers getting very good returns. Many Kentucky farmers are learning the lesson of diversification, too. They are steadily raising more hybrid corn, with resultant high yields due to ample fertilizer, and they are also raising more wheat and other small grains.

Due to the fact that Kentucky is a large fertilizer producing state, the Crafton & Duncan firm is close enough to sources of supply so that can haul its own fertilizer. This

haulage charge helps to increase the profit from sale of fertilizer, and the spreading charge, too, helps to complete the operation from placing the order to putting the fertilizer on the ground.

While the firm sells a great deal of fertilizer by the ton to farmers, many bags of fertilizer are sold in lots of one to three bags to gardeners and homeowners, Mr. Crafton reports. This is usually

pickup and cash business, and is very welcome.

The store also has a large stock of insecticides which is ample to supply the needs of both farmers and gardeners. Tobacco growers, especially, use a lot of insecticides and soil fumigants. Since the amount of cash from a one acre crop of tobacco is large, tobacco raisers do not hesitate as a rule to follow insecticide recommendations almost to the letter.

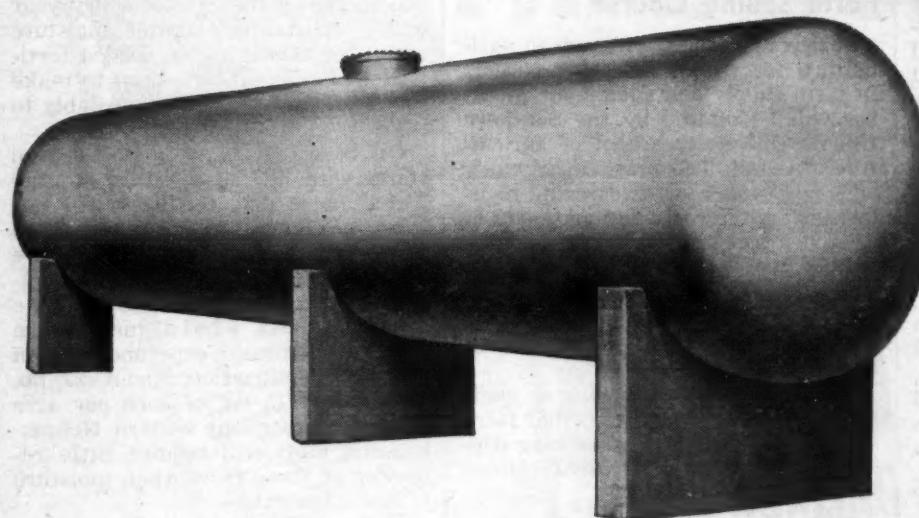
The Crafton firm has eight feed routes in the county, and the salesmen who cover the territory are often able to get advance orders for fertilizer in spring and fall. The route system enables the company to keep in close touch with farmers many months of the year and to anticipate their needs more closely.

The firm uses newspaper and radio advertising periodically through the year to advertise its fertilizers and seeds. Considerable emphasis is laid upon new products, especially in the insecticide line, as they are put on the market. Crafton advertising explains the uses of the new products to farmers, thus creating interest in the new items.

JOINS COTTON COUNCIL

MEMPHIS—Vernon P. Moore, formerly a leader in government ginning research, has joined the production and market division staff of the National Cotton Council. In his new position, Mr. Moore will concentrate on activities aimed at improved efficiency and better quality preservation in ginning and other phases of marketing.

Welded Aluminum- best tank for liquid nitrogen



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Bulk storage in 12,000 and 22,000-gal. capacities.

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Not just any aluminum tanks — they're Butler! Get top quality low-pressure tanks — built and tested by Butler tank specialists — guaranteed by Butler. Each tank is engineered with superior strength in stress areas. And Butler supplies the sizes of low-pressure tanks your business needs. Bulk storage tanks

in 12,000 and 22,000-gal. sizes. Skid tanks for transport in 500, 830, and 1000-gal. sizes. Rugged detachable skids have rubber lined straps to protect metal. Farm storage tanks are available in 100, 270, 500, 830, and 1000-gallon sizes. Mail coupon to Butler now for complete information.



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Send me more information on the following sizes of Butler low-pressure aluminum tanks.

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Firm.....

Address.....

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Better Selling

Richer Sales Fields for Dealers

CROPLIFE, August 20, 1956

RINGING THE CASH REGISTER

No Longer A Problem

A merchant with 40 years of business experience said recently that "taxes keep coming on and on. They are ever a larger factor each year in the budget of expense and they become more and more complicated." The merchant went on about what he has decided to do about it. "Our remedy has been a good one. We hired a young tax expert, a local man, and he handles all our tax problems. The tax boys no longer bother us for they are sent to our expert. I have done the same thing with all insurance. We make it a point to let one firm take care of all insurance, and we are fully covered at the least possible expense."



Fertilizer Plays Important Part in Top Indiana Farms

LAFAYETTE, IND.—Oatley Thrasher's farm, seven miles southwest of Chrisney, Ind., was inspected on the state farm management tour recently.

Mr. Thrasher has been farming since 1920, the first nine years with his father. He started with a 160-acre farm but since that time has purchased additional land until his present farm includes 1,010 acres of bottom and upland soil.

Since 600 acres of his farm is upland, pasture is a major crop and provides roughage for an 80-head beef cow herd and about 1,000 feeder steers and heifers. The grass seeding mixture for the upland includes red clover, ladino, timothy, fescue and orchard grass. Grass seeding for the bottom land includes alsike and timothy.

Corn, soybeans, wheat and barley are grown on the bottom land only. Corn fertilization for this bottom land includes an application of 200 lb. of 60% potash, 100 lb. of nitrogen, and 100 lb. of 48% phosphate plowed under and a starter fertilizer in the row of 100 pounds an acre. Corn yields average 80 bu. an acre. Mr. Thrasher raises about 70 acres of Knox wheat and yields average 30 bu. per acre.

Tobacco is one of the important crops on the Thrasher farm with 7.8 acres yielding 1,500 to 1,800 lb. per acre. An application of 300-400 lb. of 8-8-8 fertilizer broadcast per acre, and 100 lb. of 4-16-16 fertilizer in the row, plus green manure comprises the fertilization program for the tobacco crop.

Farmers who attended the tour, also saw how Kenneth K. Kennedy and his son Ralph have worked together to develop one of southern Indiana's top forage-type farms. Their 395-acre Spencer County farm is near Lamar.

Of the 325 tillable acres in the farm, 70 acres are located in the bottoms and 255 acres are of the rolling type, typical of this section of Indiana.

Cropping program for the bottom land includes corn for three to four years followed with grass for a like number of years. Rotation on the hill ground is corn one year followed by small grain and then five or more years of pasture.

Fertilization for corn is applied at the rate of 500-600 lb. of 10-10-10 plowed under per acre. Corn yields average 80 bu. per acre. Other grain crops include wheat, barley and winter oats. Wheat and barley are fertilized at the rate of 400 lb. of 4-16-16 per acre and average yields are 32 bu. per acre for wheat, and 50 to 60 bu. per acre for barley. Average winter oat yields are 50 bu. per acre.

SHOP TALK

(Continued from page 9)

fertilizers, results, latest application methods, recommendations.

Special guests? Representatives of the XYZ Fertilizer Co. and the state experiment station will be present for consultation.

I am looking forward to seeing you in Farmville, Tuesday night, November 20, at 7 p.m.

Sincerely yours
XYZ Farm Store

Farm Selling Course

A new specialized program in agriculture for persons desiring careers in farm supply and equipment retailing will be offered by the Southern Illinois University school of agriculture this fall. The program of study will consist of courses carrying regular university credit and may lead to a bachelor of science degree in agriculture.

Such courses as business management and selling will be offered along with shop work, mechanics and on-the-job training.

Fred W. Roth, agricultural engineer at the university, says that farm supply dealers today are seeking personnel who have specialized college training in their field.

Mr. Roth notes three kinds of specialized knowledge as necessary for success in farm supply retailing and equipment servicing: Fundamental knowledge of soil science, livestock production and crops; considerable technical skill and knowledge in engineering and mechanics so that the person will understand complex modern farm machines; and various kinds of information necessary for successful business management.

Southern Illinois' new program deserves a full class this fall and lots of success. There is increasing evidence that graduates such as this course will turn out are greatly in demand right now—and have been in recent years. In fact, there seemingly ought to be scores of jobs available for each graduate, judging from the specialized training which the program will provide.

Details of Nebraska Conference Announced

LINCOLN, NEB.—Further details of the program of the fertilizer training conference to be held at the University of Nebraska here Aug. 28-29 have been revealed by the sponsoring groups. The speakers' portion of the conference will take place on the afternoon of Aug. 28 and the morning of Aug. 29. The field demonstration will be held at the agronomy farm of the college of agriculture in the afternoon of Aug. 29.

FERTILIZER DEALERS PART

(Continued from page 9)

of this section of the state even in this year of moisture shortage. With fallowing, there is mineralization of nutrients as well as moisture storage resulting in lower nutrient supplements required than with continuous cropping.

Even so, our evidence today suggests need for supplemental N on more than a third of this land, and supplemental P₂O₅ on about 1/4 of the area. As an aggregate then, with 100 lb. high analysis fertilizer allotted to each deficient acre, 30,000 tons could be readily used in a region where the surface of the potential market has barely been scratched.

Finally, there are other local areas throughout the state where moisture is not deficient and where fertilizer use would be justified in quantities to bring total consumption up to or above the 1954-55 use rate of 200,000 tons. This may sound optimistic, but I am certain the thoughts expressed are realistic.

Consider now the moisture deficient areas which have been passed up to this point. Can we accept the contention so commonly made that fertilizers make crops more drought resistant? The answer can be yes and no, depending upon the surrounding conditions. In the case of a dry year where substantial subsoil moisture carryover exists, use of needed fertilizer will stimulate the crop to make use of the deep moisture available to it.

On the other hand, if the season starts with no soil moisture storage and remains dry, fertilizer will not substitute for water. For many of the severe drought areas of the state, we had better count on farmers remembering the 11 bushel per acre average wheat yield increase in southeast Nebraska experiments from optimum fertilization, about 22 bu. of oats and 15 bu. of corn per acre increase throughout eastern Nebraska, etc. Most will require little reminder of these facts when moisture is again favorable.

With what has been said as background, may we offer a few specific suggestions to dealers for obtaining and passing on vital information to farmers.

(1) Sell the farmer what he needs in the way of fertilizer nutrient(s) and not the items on hand which are hardest to move or have the biggest margin.

The better results from fertilizer a farmer obtains, the higher is your reputation with him. He will not achieve good results if you sell phosphate only to him when N only is needed. He will derive no benefit from potash sold to him for use on soil already loaded with potassium.

Your greatest possible aid in this connection is reliable soil testing, such as provided by your University Extension Service. Here knowledge derived from research correlations and calibration of laboratory tests is immediately applied. Qualified technicians do the testing under technical supervision, and specialists in agronomy make the interpretations. Nothing is for sale other than information, and this the most unbiased and up-to-date that is available.

(2) Become well acquainted with all of the fertilizer carriers in your stock; understand differences between ammoniacal and nitrate nitrogen, between calcium phosphates and ammonium phosphates, etc. The ammonium phosphates under consideration with the current "Wheat Belt Special" program have many highly

desirable attributes, some of which are not possessed by other carriers. They are completely water soluble thus will penetrate into the soil faster initially than will most other phosphates.

They contain ammonium ion in immediate contact with the phosphate, which has been proved to enhance the intake of fertilizer phosphorus from the soil into the plant. But the high degree of water solubility makes them more damaging than other phosphates to germination when in contact with seeds under critical moisture conditions. These and other things you should know about the ammonium phosphate when talking with farmers.

(3) Familiarize yourselves with effective times and rates of application of fertilizer nutrients to the important crops of your area.

Phosphate application in particular can be so poorly timed as to nullify its value for the current crop. With regard to rate, few farmers are likely to invest enough in fertilizer to hurt crops by exorbitant application, while many are likely to apply suboptimum quantities which will do little more than feed the competing soil organisms.

(4) Never underrate the importance of fertilizer placement. Properly placed, fertilizers may aid in obtaining good stands and satisfactory early growth under certain unfavorable growth conditions, while improperly placed, they may seriously inhibit if not eliminate germination of seeds. As further example, when phosphate is applied for wheat, if 2 lb. P₂O₅ per acre is adequate for optimum yield when applied with the seed, perhaps 80-100 lb. will be required to give the same results when surface broadcast after planting.

(5) Keep track of the local soil moisture situation. At North Platte where the season started with no moisture storage and the 1954 crop year was dry, winter wheat on stubble ground made but seven bu. per acre and did not benefit from fertilizer N. But when the soil was wet to a depth of 2 ft. at planting, 40 lb. N brought the yield up from 14 on the check to 28 bu. per acre; when wet to a depth of 4 ft., the increase was from 18 to 31 bu. per acre; and when wet to 6 ft., the fertilizer increased yield from 18 to 34 bu. In a cycle of dry years, these and other data would suggest that fertilizer use is questionable with less than 1 1/2-2 ft. of moist soil at season's start.

(6) Keep on hand sources of information useful to you and the farmer who contacts you. There are college bulletins and circulars which supply research information and recommendations based on studies made throughout the state. A couple of good textbooks on soils and fertilizers would be desirable to have handy on your shelves.

Also, in your immediate locality in given year there is likely to be one to several experiment station research plots and extension service demonstration plots involving the use of fertilizers. Keep your eye on these for your own edification, and steer farmers to them. Nothing sells an idea like obvious results. You can further this educational endeavor by assisting farmers in setting up their own observation plots in their own land.

In conclusion, it is my opinion that nothing is wrong with Nebraska's fertilizer market that some good salesman cannot correct. Of course a few additional general rains would help materially.

Weather Weakening Crops Mid-South Area

MEMPHIS—Farm profits in the South continued to be cut by extreme heat last week. Showers did little to relieve the heat and extension agents in Arkansas, Mississippi, Missouri and Tennessee said the crops still are being damaged by 100 degree temperatures, wind which took moisture out of the soil and seared the pastures.

The continued drought brought sets of forest fires to Arkansas and caused many farmers in the Mid-South to begin using their irrigation systems which had been installed for such emergencies.

Cotton was beginning to shed squares and bolls. The boll weevils were migrating from the older cotton to the younger tender plants. Hot weather was causing Arkansas farmers concern and may hold more trouble in the coming week.

Soybeans were beginning to need general rains and cooler weather. Late corn was faring badly and growth of sorghums had been slowed in some counties. Some corn was being salvaged for silage.

Some sections of the state got rain over the week end, but the agricultural extension service reported that at that time the dry spell had wed down preparation of land for seedings.

Drought is damaging crops over most of Mississippi. Rains have brought relief to some counties in the extreme south, and to small areas elsewhere.

Fields of older cotton are cutting out and opening rapidly," said T. M. Miller, Mississippi extension cotton specialist. "Much cotton in the dry areas has been shedding squares and bolls for a week or more."

A general migration of boll weevils is occurring, and these pests are doing much damage to cotton, reported A. G. Bennett, extension entomologist. Cabbage loopers have been found on both cotton and soybeans in some counties, the entomologist said.

Late corn in particular is suffering severely in the drought areas, said W. L. Thompson, extension pasture specialist. Protect permanent pastures from overgrazing so they can be used again before temporary winter grazing is ready, he advised.

West Tennessee row crops continue making progress despite a need for rain. Prospects for excellent cotton yields are indicated by heavy fruiting and good stands, H. T. Short, strict farm agent said.

Hay and pasture crops vary with the amount of moisture in the region. Some pastures are in good condition while others show an urgent need for water.

Farm agents said that while there are threats from boll weevil, the insect problem has been kept under control with efficient dusting programs. Continued dry weather will encourage boll weevils reproduction and farmers should check their fields often during the migration period, extension officials said.

Crops in Southeast Missouri suffered more from drought last week than any prior time this year, W. F. James, Seminole County extension agent said. Dry weather will cause opening of cotton ahead of schedule in sandy soils.

LAWN FUNGUS IN VIRGINIA
BLACKSBURG, VA.—A fungus growth on lawns is causing widespread concern to Virginia home owners at the present time, according to a report by S. B. Fenne, plant pathologist at Virginia Polytechnic Institute. Frequent showers and high humidity have combined to create favorable conditions for the fungus. Chemical control measures have been advised.

Leafhoppers and Armyworms Reported

COLLEGE PARK, MD.—Potato leafhoppers averaged from 2 to 7 per sweep on third growth alfalfa fields in Kent and Frederick Counties. In fields that have not been cut since June, leafhopper populations are high and damage is apparent. Leafhoppers are likely to spread from these to adjoining fields.

Fall armyworms have started to damage corn in Cecil, Queen Anne and Somerset counties.

European corn borer second generation egg masses averaged 10 per 100 plants on late corn in Queen Anne County. This is not as yet a heavy infestation although egg laying may increase. In Frederick County moths are emerging, however no egg masses have been found to date. Corn earworm has been moderately abundant in early corn and will no doubt increase in late

corn. Sap beetles are abundant in sweet corn in most sections.

Second brood hornworm eggs are being found in all tobacco growing counties although they have not as yet reached their peak. Green peach aphids are abundant in spots in Calvert, Charles, and Prince Georges Counties. Thos. L. Bissell and W. C. Harding, Jr.

SOUTH DAKOTA FIELD DAY

BROOKINGS, S.D.—The annual agronomy field day of the South Dakota State College Agricultural Experiment Station has been set for Sept. 13. The program begins at 9:30 a.m. Topics will concern corn breeding for drought resistance; corn hybrid performance trials; diseases of corn and sorghum; chemical weed control in corn, sorghums, soybeans and oil crops; rotation and tillage effects on moisture; effect of fertilizers and legumes on yields; pastures, and feed salvage during drought.

CROPLIFE, August 20, 1956—17

Dorr-Oliver Reorganizes Sales Department Setup

STAMFORD, CONN.—Dorr-Oliver, Inc., has reorganized its sales department under T. Bartow Ford, vice president in charge of sales, the firm has announced. Under the reorganization, line sales shares equal broad responsibilities with sales services, it is explained.

Industrial sales has been redi-vided geographically into six divisions instead of the previous three, and William E. Smith designated general sales manager to be responsible for all line sales. Mr. Smith, former assistant sales manager, has been with Dorr-Oliver since 1924.

Glen G. Reed has been named manager of sales services, while industrial sales, headquartered in Stamford, Conn., continues under Glenn O. Wilson, manager, with Theodore T. Meehan named to the post of assistant to the manager.

Watch For These 3 Hard-Selling Phillips 66 Ads...

TO HELP YOU GET MORE FALL BUSINESS!



S-T-R-E-T-C-H GREEN FEED

Apply Phillips 66 Ammonium Nitrate on pastures this fall for increased beef and milk gains at lower cost:

Following good pasture management practices, apply Phillips 66 Ammonium Nitrate on your permanent pastures this fall. You'll get extra weeks of grazing that fall and next spring. Grasses will be richer in protein, more succulent and palatable. Your biggest reward will be faster and bigger beef and milk gains at a lower production cost.

Benefits of nitrogen on fall-spared grass:

- Higher yields, for increased profit per acre.
- Extra weeks of pasture.
- Better protein content.
- Lower feeding costs.

For more information, contact your Phillips 66 distributor.



"BONUS" GRAZING

How fall application of Phillips 66 Ammonium Nitrate can stretch small grain pasture for extra profit:

There's a big bonus in applying nitrogen in the fall. It will also pay you to think about the "bonus" grazing you can get by putting down plenty of nitrogen on your fall-spared grass.

It helps to cut dry hay bills. And, because the nitrogen creates protein content in the plants, you will get faster and bigger feed and milk gains than a lower production cost per pound.

The increase in profit per acre from your harvested grain:

Benefits of nitrogen fall-applied on pastures:

- Increased protein in grass, for more protein.
- Extra weeks of fall and spring grazing.
- Larger, more protein-rich round bales.
- Increases carry-over into spring rotation.

For more information, contact your Phillips 66 distributor.

Bank Nitrogen This Fall!

Get crop dividends next year—plow down Phillips 66 Ammonium Nitrate this fall:

Here's why plow down of Phillips 66 Ammonium Nitrate this fall can be one of the most profitable investments in your business of farming.

First, you'll get extra nitrogen at spring sowing in nitrogen corn stalks, when the whole crop residue is left in the field after the big spring work load.

So, bank nitrogen this fall for your fertilizer plan right away.

Another big benefit: By plowing this important job out of the way before the big spring work load.

Then, one down on the natural nitrogen, making crops more responsive to temperature changes.

And, because the nitrogen creates protein content in the plants, you will get faster and bigger feed and milk gains than a lower production cost per pound.

The increase in profit per acre from your harvested grain:

Benefits of nitrogen fall-applied on pastures:

- Increased protein in grass, for more protein.
- Extra weeks of fall and spring grazing.
- Larger, more protein-rich round bales.
- Increases carry-over into spring rotation.

The increase in profit per acre from your harvested grain:

For more information, contact your Phillips 66 distributor.

Phillips 66 Ammonium Nitrate is a companion high nitrogen fertilizer for your quality mixed goods.

NITROGEN 33.5%

PHILLIPS 66 FALL ADVERTISING WILL REACH 4,625,000 FARM READERS

Fall business is plus business—and Phillips 66 is out to help you get more of this end-of-the-year profit. Convincing ads like these demonstrate to your best prospects that they can profit by fall application of fertilizer.

Look for the message in these ads that sells balanced fertilization—and mixed fertilizers. Another Phillips 66 extra to make your selling job more profitable.

PHILLIPS CHEMICAL COMPANY

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CHICAGO, ILL.—7 South Dearborn St.
DENVER, COLO.—1375 Kearney Ave.
DES MOINES, IOWA—6th Floor, Hubbell Bldg.

HOUSTON, TEX.—1020 E. Holcombe Blvd.
INDIANAPOLIS, IND.—1112 N. Pennsylvania St.
KANSAS CITY, MO.—500 West 39th St.
MINNEAPOLIS, MINN.—212 Sixth St. South
NEW YORK, N.Y.—80 Broadway
OMAHA, NEB.—6th Floor, WOW Building
PASADENA, CALIF.—330 Security Bldg.

RALEIGH, N.C.—804 St. Mary's St.
SALT LAKE CITY, UTAH—68 South Main
SPOKANE, WASH.—521 E. Sprague
ST. LOUIS, MO.—4251 Lindell Blvd.
TAMPA, FLA.—3737 Neptune St.
TULSA, OKLA.—1708 Utica Square
WICHITA, KAN.—501 KFH Building

MEETING MEMOS

Aug. 17-25—Tenth International Congress of Entomology, McGill University and University of Montreal, Montreal, Canada, J. A. Downes, Science Service Bldg., Carling Ave., Ottawa, Ontario, Canada, Congress Secretary.

Aug. 20-22—Corn Belt Branch, American Society of Agronomy, Summer Meeting, Purdue University, Lafayette, Ind.

Aug. 22-24—Beltwide Cotton Mechanization Conference, Atlanta Biltmore, Atlanta, Ga., sponsored by National Cotton Council.

Aug. 24—Grassland-Dairy Field Day

In Observance of the 25th Anniversary of Rutgers University Dairy Research Farm, Beemerville, N.J.

Aug. 27-30—Course on Tank Truck Transportation of Chemicals, Michigan State University, East Lansing, Mich.

Aug. 28-29—Great Plains Agricultural Ammonia Conference, Cornhusker Hotel, Lincoln, Neb.

Aug. 30—South Carolina Plant Food Educational Society, Clemson House, Clemson, S.C.

Sept. 5-7—National Agricultural Chemicals Assn., 23rd Annual Meeting, Essex and Sussex, Spring

Lake, N.J., L. S. Hitchner, 1145 19th St. N.W., Washington, D.C., Executive Secretary.

Sept. 18-19—Symposium on Chemicals in Food Production, Presented by Division of Chemical Marketing and Economics, American Chemical Society, Atlantic City, N.J.

Oct. 8-10—Carolinians-Virginia Pesticide Formulators Assn., Inc., Annual Meeting, Holly Inn, Pinehurst, N.C., W. R. Peele, 516 S. Salisbury St., Raleigh, Secretary-Treasurer.

Oct. 9—Western Agricultural Chemicals Assn., Fall Meeting, Villa Hotel, San Mateo, Cal., C. O. Barnard, 2466 Kenwood Ave., San Jose, 28, Cal., Executive Secretary.

Oct. 15—Fifth Annual Chemical Sales Clinic, the Salesmen's Association of the American Chemical Industry; Hotel Commodore, New York City; chairman, Preston F. Tinsley, Westvaco Chlor-Alkali Division, Food Machinery and

Chemical Corp., 161 East 42nd New York 17, N.Y.

Oct. 16-17—National Nitrogen & Tetrations Assn., Annual Meeting, Trade Show, City Auditorium, Sioux City, Iowa; John White, burn, Neb., secretary.

Oct. 16-18—Fertilizer Industry Ro Table, Shoreham Hotel, Washington, D.C. Vincent Sauchelli, C. Agronomist, Davison Chemical Div. W. R. Grace Co., Baltimore Md., chairman.

Oct. 16-18—Canadian Agricultural Chemicals Assn., Fourth Annual Meeting and Conference, Sheraton Brock Hotel, Niagara Falls, tarlo.

Oct. 18-19—Association of American Fertilizer Control Officials, Sheraton Hotel, Washington, D.C., B. Cloaninger, Clemson Agriculture College, Clemson, S.C., secret treasurer.

Oct. 22-23—Fertilizer Section, International Safety Council, La Salle Hotel, Chicago, Ill.; Curtis A. C. Virginia-Carolina Chemical Co., Richmond, Va., chairman.

Oct. 23-24—Pacific Northwest Golden Supply Trade Show, Shrine Auditorium, Portland, Ore.

Oct. 25—Middle West Soil Improvement Committee, Annual Meeting, Sherman Hotel, Chicago; Z. Beers, Executive Secretary, 228 La Salle St., Chicago 1, Ill.

Nov. 2—Joint Agronomy-Industry Work Conference, Atlanta Biltmore Hotel, Atlanta, Ga.

Nov. 7-8—Agricultural Ammonia Institute, Annual Convention, Atlanta Biltmore Hotel, Atlanta, Ga., J. F. Criswell, Claridge Hotel, Memphis, executive vice president.

Nov. 7-9—Pacific Northwest Food Assn., Annual Convention, Harrison Hot Springs Hotel, Harrison Hot Springs, British Columbia, Leon S. Jackson, Lewis Building, Portland, Ore., secretary.

Nov. 11-13—California Fertilizer Assn., 33rd annual convention, Coronado Hotel, Coronado, Calif. Sidney H. Bierly, executive secretary, 475 Huntington Drive, San Marino 9, Cal.

Nov. 19-20—Eastern Branch, Entomological Society of America, Hotel Haddon Hall, Atlantic City, N.J., B. F. Driggers, Rutgers University, New Brunswick, N.J., secretary.

Nov. 28—Oklahoma Fertilizer Dealer Conference, Sponsored by the Oklahoma Plant Food Educational Society, Oklahoma A&M College, Stillwater.

Dec. 27-31—Entomological Society of America, Annual Meeting, Hotel New Yorker, New York City.

July 17-19—Southwest Fertilizer Conference, Galvez Hotel, Galveston, Texas.

1957

Jan. 23-25—Southern Weed Conference, Bon Aire Hotel, Augusta, Ga. Walter K. Porter, Jr., Agricultural Experiment Station, Louisiana State University, Baton Rouge, secretary.

Jan. 28-29—National Cotton Council of America, Annual Meeting, St. Louis, Mo.

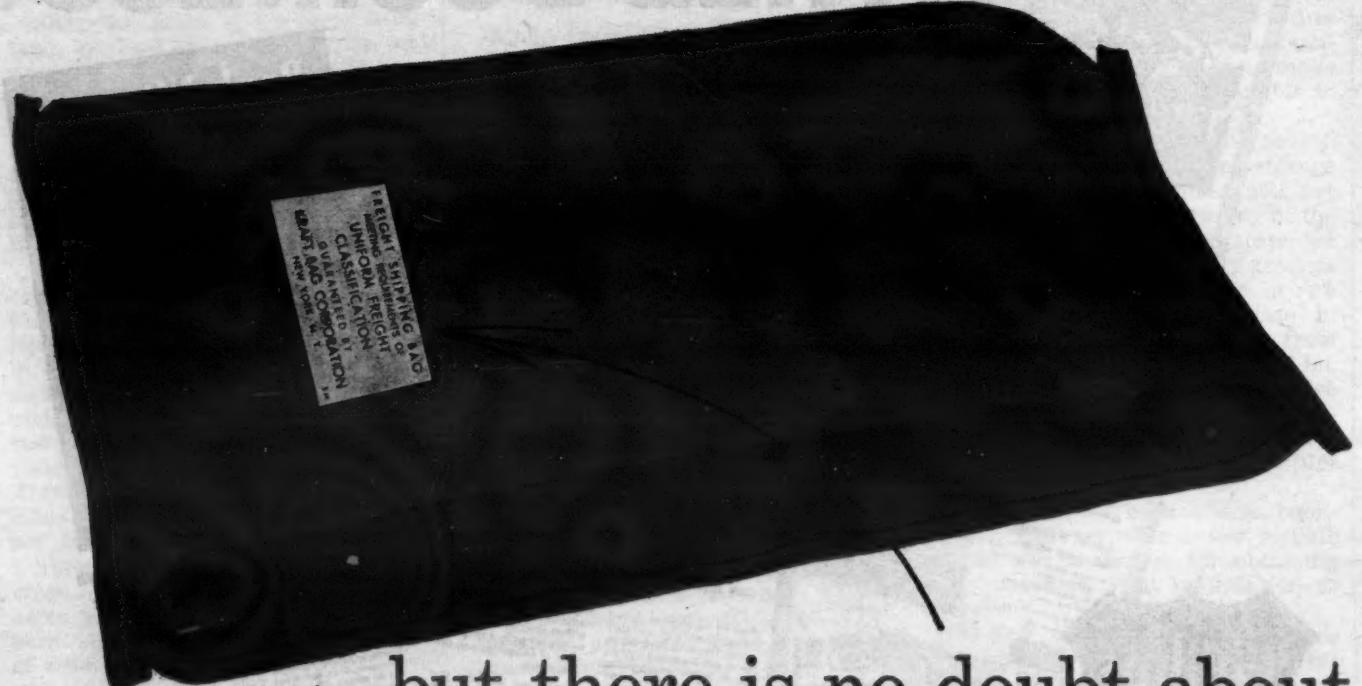
June 26-28—Eighth Annual Fertilizer Conference of the Pacific Northwest, Benson Hotel, Portland, Ore. B. R. Bertramson, Washington State College, Pullman, Washington, chairman.

MORE NITROGEN NEEDED

ST. PAUL—Annual nitrogen fertilizer usage in Minnesota has increased from 1,392 tons in 1945 to 33,783 tons a year ago. But it would take 100,000 tons of nitrogen annually to get the most out of Minnesota soils, according to J. M. MacGregor, soils scientist at the University of Minnesota.

Cigars and Multiwall Bags

Kraft Bag Corporation, as a manufacturer of multiwall bags, is in the same position as the cigar manufacturer who complained that everything to be said about his 25c cigars had already been said about 5-centers!



...but there is no doubt about the quality of the multiwall bags that bear the Kraft Bag Corporation stamp!



Our completely integrated plants and modern facilities producing every type of heavy-duty valve or open mouth bag, are second to none!

As an exponent of true specialization, there isn't a single known or desirable time-and-labor-saving development that we haven't already either considered, initiated, adopted or built into multiwall bags we are called upon to make for America's industries, while continuing our search for still better ways to package our customers' products.

If your product can be packaged in a multiwall bag — you can depend on us to make the bag to fit your product.

Investigate
The KRAFTPACKER®
Open Mouth Bag Filling
Machine for
free-flowing material
... highest accuracy
and production...
reduces packaging costs
at an unbelievable rate.



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Rain Needed for Parched Crops In Massachusetts

BOSTON—An inch of rain would be worth \$1,000,000 to Massachusetts farmers "right now," an agricultural expert declared in Boston on Aug. 10 as dry weather continued with no rain in sight beyond possible scattered thunderstorms.

Estimating damage to the sweet corn crop alone at \$250,000, Walter E. Piper, chief marketing investigator of the State Department of Agriculture, said about 1,000 acres planted in sweet corn in the state are "practically gone" because of lack of rain.

"We need about an inch, a real soaking rain," Mr. Piper said. "It's about four weeks since we've had it. Showers won't do it, for they simply run off. But about an inch would fix us."

Mr. Piper said the dry weather is damaging the potato and tobacco crops and "the whole line of vegetables." Besides corn, the worst suf-

ferer, he listed tomatoes, cucumbers, cabbages, peppers and squash.

Louis A. Webster, the department director of markets, said the "smaller farmers and the backyard gardeners are being hurt the most." An increasing number of large farms are equipped with irrigating systems, Mr. Webster pointed out. But none of them find it worth the expense to water pastures and hayfields, with the result that both are undergoing "real damage," he said.

Mr. Webster said there was a possible silver lining, however, in the fact that a drouth "has a tendency to make a short crop. When the crop is short, the stores are cleaned up every day and the farmers get a good price for it."

"For the last few years," he said, "vegetable prices have been distressingly low. There has been too much of having a surplus with the crop spoiling on the sidewalks."

After visiting farms in Framingham and South Natick, Mr. Webster said "it's getting pretty dry. Showers, producing under an inch wouldn't do much good. It's like sprinkling your

lawn. They tell you that unless you put a lot of water on the grass, it does more harm than good."

Dealer Conference Set For November Sessions

STILLWATER, OKLA.—The Oklahoma Fertilizer Dealers' Conference will be held at Oklahoma A&M College here Nov. 28-29 in connection with the annual state soils and crops conference, it has been announced.

The conference is sponsored by the Oklahoma Plant Food Educational Society for fertilizer dealers to discuss agronomic information and better ways to promote and merchandise agricultural chemicals by the dealer.

A&M officials on the program committee, which met recently in Stillwater, include Dr. M. D. Thorne, head of the agronomy department; Dr. Lester Reed, of the agronomy faculty, and Wesley Chaffin, extension agronomist.

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Business of Farming—editorial pages

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Capper's Farmer . . .	278.2

SUCCESSFUL FARMING is not a general news, discussion, fiction or entertainment vehicle—but a business magazine.

It is published to make better farmers, better farm business, better living for farm families. Its content is news of farming, know how, how to, reasons why... usually based on actual case histories.

Its editors and contributors spend as much time on farms as in their offices, to keep this magazine practical, realistic, useful. A smart farmer finds something

in every issue that will save work, prevent mistakes and losses, make better use of his time, land and money.

And SF has served for more than fifty years one kind of farmer—the big volume producers of corn, grains and livestock products—the kind of farmer who needs fertilizers most, can afford to buy them, and is your best prospect and customer.

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Leslie G. Boatright

Leslie G. Boatright Joins Escambia Bay Chemical Co.

NEW YORK—Dr. Leslie G. Boatright has joined Escambia Bay Chemical Corp., it was announced recently by A. N. Wohlwend, director of commercial development.

He is located at the company headquarters, 261 Madison Ave., New York City, where he will devote his full time to the activities of the commercial development department.

Dr. Boatright joins Escambia Bay from Jefferson Chemical Co. where he was manager of market development with offices in Houston. Prior to this, he was research chemist with American Cyanamid Co. in its Stamford, Conn. research laboratory.

Escambia Bay Chemical is now producing ammonia, nitric acid, ammonium nitrate and fertilizer solutions at its plant in Pensacola, Fla. Construction is now under way at the same site for a 30 million pound polyvinyl chloride resins plant to be completed in the fourth quarter of this year.

Dr. Boatright holds a B.A. from Missouri Valley College, an M.A. from the University of Kansas and a Ph.D. from Purdue University.

Norman H. Eason, Lion Sales Official, Dies

EL DORADO, ARK.—Norman Henry Eason, 56, died suddenly Aug. 11 in St. Louis. Mr. Eason was for ten years assistant manager of chemical sales for Lion Oil Co. in El Dorado.

He was employed by Lion in 1946 after more than 20 years experience in the fertilizer sales field. He was born in Richfield, N.Y. and was graduated from Cornell University in 1923 with a degree in agriculture.

Mr. Eason had very recently moved to St. Louis to continue in agricultural sales with the Inorganic Division of Monsanto Chemical Co., of which company Lion is also a division.

Survivors include his widow; a daughter, Mrs. Arthur Holler, Little Rock; two sons, Lt. Richard Eason, Geesler Air Force Base, Biloxi, Miss., and Norman H. Eason, Jr., Luling, La.; his father, Stewart B. Eason, Schuyler Lake, N.Y. He was a member of St. Mary's Episcopal Church of El Dorado.

Soil Test Leaflets

WASHINGTON—The Iowa Bankers Assn., in cooperation with Iowa State College and the National Plant Food Institute, has distributed 40,000 copies of a 4-page folder emphasizing the importance of soil testing. The soil fertility leaflet was designed by the Institute. Five thousand copies of the folder were supplied to agricultural workers by the Iowa State College, according to Dr. Russell Cole, executive vice president of the

OHIO FIELD DAY

(Continued from page 1)

nearly 20 manufacturers of gas-liquid and dry fertilizer distributing equipment put their machines through their paces and explained to the crowd how their implements operated.

Speakers included agronomists and representatives of organizations allied with the fertilizer industry. Following are some of their major comments:

Dr. D. R. Dodd, Hedgesville, W. Va., former agronomist with the Ohio State University and the Ohio Agricultural Experiment station and now a farmer in West Virginia, reminded the representatives of fertilizer industries present that "you can profit only as the farmer profits. In the long run it would be better that no sale was made than to have the product sold be used in a manner which produces a loss rather than a profit. I

am suggesting that industries' farmer contact men give more attention to a study of the farmer and his operations. Frequently, it seems to me, these men do not recognize the farmer's limitations and the limiting factors in his production."

Dr. G. N. Hoffer, Lafayette, Ind., consulting agronomist for Olin Mathieson Chemical Corp. and Funk's G. Hybrid Co., Bloomington, Ill., said: "The gas (anhydrous ammonia) from a 100-gallon tank on an efficient applicator will provide as much ammonia as can be obtained from more than 40 tons of good manure carefully handled and worked into the soil."

"Animals on pasture sometimes refuse to eat the nitrogen-rich lush grass around dung spots. This means

the soil is low in phosphate and that the phosphorus and sugar content of the grass is too low (too much protein for the phosphate and sugar). The short, slow-growing grass between these lush plants is more palatable because it contains more phosphate and sugar.

"Be sure that your pastures have enough phosphorus by broadcasting 6-24-24, 11-48-0, or superphosphate," he urged. "Ohio results have shown that broadcasting phosphates produced completely palatable grasses under these conditions."

O. L. Musgrave, Columbus, extension agronomist, Ohio State University, told the group that "crop rotations, including legumes, have been widely used as a means of restoring soil nitrogen and organic matter. The value of these legumes has been almost universally accepted. Yet, under practical farm conditions, instead of greatly improving soil fertility they have added only limited amounts of nitrogen and masked fertility decline. Legumes add nitrogen, furnish soil

cover, aid in tilth and structure improvement, but remove more mineral from the soil than do grain crops particularly when only the grain is removed.

"Commercial nitrogen is a tool for the control of the nitrogen fertility status of soils, much as supplementary irrigation is a method for the maintenance of optimum water supplies during dry periods."

"Balanced nutrient supply is essential for optimum production. Increased use of nitrogen results in larger quantities of mineral nutrients being removed from the soil. Increasing the nitrogen application may not produce the desired crop yield response if phosphorus, potassium, calcium, or a combination of these elements are in short supply. Thus, it becomes highly important to use the soil test regularly to determine the relative supply of the mineral nutrients."

H. J. Mederski, Wooster, O., agronomist, the Ohio Agricultural Experiment station, declared that "Ohio, cooperation with the north central states, is engaged in research designed to determine the usefulness of various tests for estimating the nitrogen supplying power of the soil. Results of this research show that although the total organic matter in the soil is a general guide to the amount of nitrogen the soil will supply, the rate of release of nitrogen from the organic matter varies. The new soil nitrogen tests have the advantage of actually measuring the amount of nitrogen that the soil is capable of releasing. Tests of this kind make it possible to determine more accurately the amount of nitrogen that should be applied to a given soil for a given crop."

"Tests are underway to develop new cropping systems including the substitution of fertilizer nitrogen for legume nitrogen. The objective of this work is to develop new cropping systems which will allow the farmer more latitude and flexibility in his farming enterprise. In this work emphasis will be placed on the elimination of 1 or 2 years of the rotation ordinarily devoted to sod crops and the substitution of rotation or cropping systems which will permit a larger share of time to be devoted to cash grain production."

W. H. Garman, Washington, D.C., chief agronomist, National Plant Food Institute, advised that proper fertilization through the use of soil tests is one of the best practices farmers can follow to boost production per acre.

The average amount of nitrogen used per acre on corn in the East North Central region (Ohio, Indiana, Illinois, Wisconsin and Minnesota) in 1954 was 15 pounds, he said, and added that by 1960, it may reach 20 pounds.

Factors which will help encourage the use of more fertilizer in the immediate future are (1) government acreage controls, which mean farmers will have fewer acres in cash crops and will try to make those fewer acres produce more, and (2) the trend toward larger farms, which often leads to more progressive management.

The nitrogen field day and equipment demonstration was sponsored by the Ohio State University agricultural extension service and the departments of agronomy and agricultural engineering in cooperation with manufacturers of nitrogen fertilizers and fertilizer distribution equipment.

A. F. CAMP TO RETIRE

GAINESVILLE, FLA.—Dr. A. F. Camp, vice director of the University of Florida Citrus Experiment Station, is retiring Dec. 31. He will be succeeded by Dr. Herman J. Reitz, horticulturist at the citrus station. Dr. Camp's career in Florida agriculture dates back to 1923 when he began working as plant inspector.



PHOTO COURTESY WESTERN GROWERS ASSN.

TRONA® POTASH for Agriculture

In 1917 state fairs were awarding prizes for outstanding farm products just as they are today. Then as now, growers depended on Trona® MURIATE OF POTASH for high quality crops. For it was in 1917 that Trona, first to produce domestic Potash when World War I pinched off foreign sources, shipped the first trainload to the east coast. Since that time, even with American Potash and Chemical Corporation's broad diversification program, Trona is still one of the primary basic suppliers of high grade Muriate and Sulphate of Potash for Agriculture.

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One Super Output From Year Ago

WASHINGTON—U.S. production of superphosphate and other phosphate fertilizers totaled 169,187 short tons during June, a gain from 142,446 short tons in June a year ago, according to the Bureau of the Census. Output in June this year, however, was 1% below the 222,820 short tons produced in May. Shipments in June totaled 81,883 short tons, compared with 127,996 in May and 69,140 in June a year earlier. Stocks on hand at the end of June amounted to 388,572 short tons, a gain from 320,768 at the end of May and 289,542 at the end of June, 1955. The June output included 92,137 short tons of normal 1,177 of enriched, 1,619 of concentrated, 50 of wet-process goods and 13,204 of other phosphate fertilizers.

alf-a-Crop Estimate for South Dakota

BROOKINGS, S.D.—Early crop reports indicate that South Dakota will produce only about half a crop of small grain this year, according to Dr. W. E. Bender, farm management specialist at South Dakota State College. Mr. Bender believes that the full toll of the drouth has not been felt as yet and there may be further cuts in estimates in later forecasts. "The corn acreage to be harvested this year is slightly less than a year ago and much rain is needed to meet present estimates of production," he said. "The total acreage of alfalfa has increased over a year ago and this helps explain the increase in tonnage produced."

Present indications are that South Dakota farmers will harvest about 1% more corn and about 14% more alfalfa hay than they did last year, but all other crops are expected to be short anywhere from 3 to 56% of what was raised a year ago. Biggest reductions will be in oats and wheat, which are estimated to be 50 and 55% below production figures for 1955.

southern Weed Conference Scheduled

AUGUSTA, GA.—The Southern Weed Control Conference will meet at the Bon Aire Hotel here Jan. 23-25, 1957, according to an announcement by J. K. Leasure, Midland, Mich., program committee chairman. In his first call for papers to be delivered at the conference, he indicated that topics to be covered included control of specific weeds in specific crops, aquatic weed control, weed control in pastures, turf and non-crop areas and horticultural weed control.

EXTENSION WORKER DIES

LEXINGTON, KY.—Carl W. Jones, field agent with the University of Kentucky's agricultural extension service, died Aug. 1 here, following a brief illness. He was a native of Polk, Tenn.

POTASH DELIVERIES

(Continued from page 1)

Deliveries, followed in order by Ohio, Indiana, Georgia, Florida and Virginia. Deliveries do not necessarily correspond to consumption in a given state, API points out.

Muriate of potash was the principal trade, comprising 93% of the total agricultural potash delivered, while sulphate of potash and sulphate of potash-magnesia together made up 6% of deliveries.

Deliveries of potash for chemical purposes amounted to 123,482 tons in 1955, an increase of 20% over 1954-55. The muriate grade made up 94% of chemical deliveries, and sulphate of potash 6%.

Acreage Reserve Program for Winter Wheat Announced

WASHINGTON—The 1957 acreage reserve program of the soil bank, with specific details of its application to those farms where winter wheat will be planted this fall, was announced Aug. 13 by Ezra Taft Benson, secretary of agriculture.

Winter wheat producers will have the opportunity to sign acreage reserve agreements until Sept. 21, 1956.

Details of the 1957 acreage reserve as it will apply to other basic crops (cotton, corn, rice, peanuts, tobacco, and wheat grown on farms where all wheat is spring-seeded) will be announced later in the year.

General provisions of the 1957 Acreage Reserve program and their specific application to "winter" wheat seeded this fall follow:

All farmers having acreage allotments for wheat, (except for "new farm" allotments), are eligible to

participate in the program. To participate, a farmer must sign an agreement with his county Agricultural Stabilization and Conservation Committee to reduce his 1957 acreage of wheat entered in the acreage reserve below his farm allotment. Farmers entering land in the 1957 program will be offered incentives to designate the same land in future programs.

Participating farmers will receive payments designed to compensate them for the loss of net income from wheat that would have been produced on the acreage placed in the acreage reserve. These payments will be based on "normal" crop yield of the land placed in the reserve, the acreage reserve unit rate for wheat for the county and the number of acres placed in the reserve. The 1957 acreage reserve rate for wheat already has been announced at a national average of \$1.20 bu.

Payments are made to farmers in the form of certificates which may be redeemed for cash or, in the case of farmers who have placed grain

land in the acreage reserve, for grain.

Acreage placed in the acreage reserve may be left idle or a soil or water conservation practice may be carried out on it. It is possible to qualify for Agricultural Conservation Program cost-sharing on land in the acreage reserve. During 1957, the acreage reserve cannot be grazed except by determination of the secretary of agriculture as the result of an emergency, or cropped or cut for hay. Noxious weeds must be controlled on the land.

Farmers entering wheat land in the Acreage Reserve have to comply with other acreage allotments on their farms to remain eligible for payments.

ARKANSAS APPOINTMENT

FAYETTEVILLE, ARK.—Dr. Willard H. Whitcomb has been named professor of entomology at the University of Arkansas College of Agriculture. Since 1952 he has worked as entomologist with Shell Oil Co.

SALESMEN... to help boost YOUR profits!



LION Advertisements Sell LION Nitrogen, and Your Mixed Goods, Too!

Continuous Lion advertising appears in leading farm publications, month-after-month, to pre-sell the Lion brand to farmers—and to sell the value of your mixed fertilizers as well!

Current advertisements are appearing in Farm and Ranch-Southern Agriculturist, Progressive Farmer, The Farmer, Nebraska Farmer, Kansas Farmer, Prairie Farmer, Wallace's Farmer & Iowa Homestead, Wisconsin Agriculturist and Farmer, Missouri Ruralist and Missouri Farmer. All of these advertisements are in color.

Each Lion advertisement promotes the economic benefits of properly using fertilizers, including Lion Ammonium Nitrate, to help increase the farmer's profits. Each advertisement sells hard on the importance of soil tests in the intelligent use of all commercial fertilizers. Lion, a leader in nitrogen production, leads the way to good fertilization practices... to better profits for you!

LION'S QUALITY LINE OF NITROGEN FERTILIZER MATERIALS

LION ANHYDROUS AMMONIA—82.2% nitrogen. Quality guaranteed.

LION AQUA AMMONIA—Ammonia content above 30%—other grades to suit your requirements.

LION AMMONIUM NITRATE FERTILIZER—Improved spherical pellets. Guaranteed 33.5% nitrogen.

LION NITROGEN FERTILIZER SOLUTIONS—Various types to suit your particular manufacturing needs.

LION SULPHATE OF AMMONIA—White, uniform, free-flowing crystals. Guaranteed 21% nitrogen.

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LION OIL COMPANY
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Croplife®

A WEEKLY NEWSPAPER FOR THE FARM CHEMICAL INDUSTRY

The regional circulation of this issue is concentrated in the Midwestern states.

Plant Inspectors Do Good Job of Interception

Introduction during recent months, of agricultural pests in areas where they had not been known previously, points up the important job being done by quarantine inspectors who literally stand guard to keep insects and plant diseases from entering the U.S. from other countries.

The recent news of finding a Hawaiian melon fly in California, plus previous incidents involving the spotted alfalfa aphid; the Mediterranean fruit fly and the Khapra beetle in various parts of the country serve to illustrate the necessity of continuing our efforts to intercept all such pests before they gain any kind of foothold.

This is work where the proverbial "ounce of prevention" pays off. Had the first European corn borers been intercepted in 1917 before gaining a good foothold here, American agriculture would have one less headache. This pest, first found in New England in World War I days, is now reported to be present in 1,644 counties in 37 states. Its spread is still under way, although in 1955, no new states were added to its hunting ground. It was noted by USDA, however, that the pest had been found in some 47 hitherto clean counties in states already infested.

Lest one should get the idea from this that inspectors are lax in their duties, here are some statistics on what these guardians are up against. USDA reports that some 17,500 lots of destructive plant pests (11,600 insects and 5,900 plant diseases) from throughout the world were intercepted by plant quarantine inspectors during the past year. Upon realizing how few bugs and infected plants got through, one will have to admit that the batting average for these inspectors is pretty high.

To carry out their searches, these men examined 54,700 vessels and 97,000 airplanes from overseas, and over 17,000,000 motor vehicles, 101,000 freight cars, and 2,200 pullmans and coaches arriving from below our southern border. Unusual traffic loads often complicate the inspection task. For example, last year at one airport alone—Idlewild, N.Y.—the inspection staff was faced with an average of 50 transatlantic plane arrivals daily during the peak month of July.

The Mediterranean fruit fly, always a potential threat to our important fruit industries in Southern and Western States, is Public Plant Enemy No. 1 for plant quarantine inspectors. Since its eradication in 1930, no infestation by this insect pest had been reported in the United States until recent months, when it was found in Florida. This is only the second time this pest has successfully invaded the country. Yet on literally hundreds of occasions—almost 2,000 times in the last 40 years—Medfly invaders have been intercepted by plant quarantine inspectors before they could cross our borders. Through prompt and vigorous domestic quarantine and control action, pest-control agencies hope to eradicate the present infestation before it can spread to commercial citrus and other fruit areas.

The Khapra beetle, native of the Far East and considered the world's worst pest of stored grain, is another marauder high on the plant quarantine black list. It has been found in California, Arizona, and New Mexico, and tight quarantine regulations are enforced to prevent further invasion and spread.

Special precautions are also in effect against the golden nematode, a soil-borne organism that is destructive to potatoes and tomatoes.

These are only a few of the many known insect and nematode pests that plant quarantine inspectors are trained to detect. They must also be

on the alert for a variety of destructive fungal, bacterial, and viral diseases of plants. Frequently they discover new species of pests and detect pests arriving from countries in which they were not previously reported.

Commercial shipments of plants and plant materials are relatively simple for quarantine inspectors to control. Much of this material is certified by the country of origin as meeting sanitary growing and packing conditions. Nevertheless, inspectors examine each shipment to insure that it is free from pests and that no contaminating soil or prohibited packing material or other commodity is present.

Fumigation with gas and treatment with heat or cold as a condition of entry are other safeguards used for certain types of plant material. Inspection and clearance of bulbs at the point of origin in Holland, Belgium, and France continues to prove an effective way of getting cleaner and healthier bulbs to our gardeners at less inspection cost to the taxpayer.

A variety of dangerous plant pests may be brought in with baggage of ships' and airplane passengers or crews or with shipments of gifts by mail or otherwise. Detecting these unauthorized arrivals greatly taxes the ingenuity of inspectors. Coming from the gardens and farms of people all over the world, such plant material is usually grown and harvested by laymen without knowledge of the harmful pests it may harbor. People sometimes use devious ways to get restricted material into this country without detection. Custom officers cooperate with plant quarantine inspectors in helping to keep out contraband plant materials and foods.

Plant pests could slip in with stores and furnishings of ships and planes from foreign points. These are closely watched. Military equipment and materials and baggage of personnel moved here from posts overseas are also subject to plant quarantine inspection.

Without the vital protection given by our plant quarantine inspectors, losses from plant pests, now running over \$4 billion annually, would be substantially greater. Occasionally, serious plant pests do get past the inspection line—but many more are kept out by the plant inspectors' vigilance at our ports and borders.

Today's Frontiers Require Same Courage Pioneers Had

"In the decade following 1870, over twenty per cent of our national income came from agriculture and only fourteen per cent from manufacturing. Today the respective proportions are something like seven per cent from the land and thirty-five per cent from our factories . . .

"This change has come through the massive thrust of our technology. Pioneering has turned from the land to the far more challenging exploration of the physical sciences. The frontier which confronted Daniel Boone when he crossed plain and mountain a century and a half ago, seemed limitless. We can now see that the physical frontier of 1800, great as were its potentialities, was but a patch of woods compared to those which today spread without limit over the agenda of our research laboratories.

"Yet we must remember that pioneering in the laboratory entails the same kind of risks, the same kind of disappointments, the same kind of frustrations as those faced by Boone and his party at the Cumberland Gap. It is slow and often fruitless plodding and, like the frontiersman, it seems that it must allow for failures and mistakes as well as for triumphs and discoveries. The conquest of the wilderness of science calls for the same faith, patience, and incentive as that reflected in our proudest moments of history."—Crawford H. Greenewalt, president, E. I. du Pont de Nemours & Co., Inc., before Manufacturing Chemists' Assn.



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CROPLIFE is a controlled circulation journal published weekly. Weekly distribution of each issue is made to the fertilizer manufacturers, pesticide formulators and basic chemical manufacturers. In addition, the dealer-distributor-farm adviser segment of the agricultural chemical industry is covered on a regional (crop-area) basis with a mailing schedule which covers consecutively, one each week, four geographic regions (Northeast, South, Midwest and West) of the U.S. with one of four regional dealer issues. To those not eligible for this controlled distribution Croplife subscription rate is \$5 for one year (\$8 a year outside the U.S.). Single copy price, 25¢.

LAWRENCE A. LONG

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Deliveries of Potash Salts June, 1955 Through May, 1956

In Tons of 2,000 lb. K.O
See Story on Page 1

Muriate— List of Delivery—	60% & 50%	Manure Salts	Sulphates	Total
Alabama	64,616.02	12.00	369.00	64,997.02
Arizona	27.00	30.00	775.87	802.87
Kansas	38,625.40	.....	64.04	38,719.44
California	9,777.00	.....	7,529.00	17,306.00
Colorado	768.51	.....	35.00	803.51
Connecticut	3,079.03	.....	917.83	3,996.86
Delaware	6,910.97	.....	60.55	6,971.52
District of Columbia	384.56	.....	162.64	547.20
Florida	82,403.13	33.00	25,444.09	107,880.22
Georgia	119,515.41	5.00	6,936.21	126,456.62
Idaho	540.00	.....	16.00	556.00
Illinois	188,102.08	.....	1,019.38	189,121.46
Indiana	144,243.20	.....	3,251.81	147,495.01
Iowa	47,872.20	.....	131.70	48,003.90
Kansas	2,843.93	377.65	.....	3,221.58
Kentucky	24,635.09	.....	9,806.08	34,441.17
Louisiana	24,005.16	.....	119.74	24,124.90
Maine	11,078.12	.....	687.69	11,765.81
Maryland	72,562.09	13.49	4,319.44	76,895.02
Massachusetts	14,044.16	.....	1,249.80	15,293.96
Michigan	50,333.58	.....	520.28	50,853.86
Minnesota	55,959.03	.....	133.15	56,092.18
Mississippi	32,112.23	.....	306.25	32,418.48
Missouri	43,250.90	414.03	232.83	43,897.76
Montana	61.00	.....	1.00	62.00
Nebraska	1,735.98	.....	.....	1,735.98
New Hampshire	12.11	.....	.....	12.11
New Jersey	26,455.65	12.00	893.75	27,361.40
New Mexico	101.04	.....	.....	101.04
New York	36,853.49	.....	1,183.07	38,036.56
North Carolina	77,404.56	79.66	17,914.97	95,399.19
North Dakota	3,831.97	.....	.....	3,831.97
Nevada	.....	.....	1.00	1.00
Ohio	176,105.51	40.46	3,374.50	179,520.47
Oklahoma	2,280.34	.....	9.00	2,289.34
Oregon	3,659.84	.....	216.06	3,875.90
Pennsylvania	36,482.88	11.72	1,853.19	38,347.79
Rhode Island	1,657.17	.....	46.12	1,703.29
South Carolina	60,410.32	75.51	3,840.40	64,326.23
South Dakota	344.87	.....	.....	344.87
Tennessee	65,513.18	.....	5,670.30	71,183.48
Texas	48,687.80	.....	182.67	48,870.47
Vermont	137.00	.....	21.00	158.00
Virginia	1,129.55	.....	.....	1,129.55
Washington	88,873.71	55.00	11,891.89	100,820.60
West Virginia	7,396.30	24.38	471.56	7,892.24
Wisconsin	1,174.81	.....	.....	1,174.81
Wyoming	54,081.63	54.47	964.85	55,100.95
Total U.S.	1,732,080.51	1,238.37	112,623.71	1,845,942.59
Imports	*151,553.59	.....	*16,853.20	*168,406.79
Canada	82,498.59	.....	7,902.98	90,401.57
Imports	*35,628.84	.....	*2,011.10	*37,639.94
Cuba	12,985.88	.....	2,812.62	15,798.50
Imports	.....	.....	.....	.....
Hawaii	18,799.83	.....	2,516.50	21,316.33
Puerto Rico	17,341.64	.....	2,656.44	19,998.08
Imports	*3,555.31	.....	*1,079.96	*4,635.27
Total Institute Territories	1,863,706.45	1,238.37	128,512.25	1,993,457.07
Exports	93,783.02	.....	9,740.17	103,523.19
GRAND TOTAL	1,957,489.47	1,238.37	138,252.42	2,096,980.26
Imports	*190,737.74	.....	*19,944.26	*210,682.00

*Represents imports and are included in the totals immediately above them.

California Issues Quarantine Order

SACRAMENTO, CAL.—Effective Aug. 21, a California Department of Agriculture quarantine will go into effect against corn on the cob, cornobs, cornstalks and sugarcane plants and stalks from 22 states.

The quarantine names the southern cornstalk borer, southwestern cornstalk borer and the sugarcane borer as the pests against which the ban is directed. States against which the quarantine is effective are Alabama, Arizona, Arkansas, Delaware, Florida, Georgia, Indiana, Iowa, Kansas, Louisiana, Maryland, Mississippi, Missouri, Nebraska, New Jersey, New Mexico, North Carolina, Oklahoma, South Carolina, Tennessee, Texas and Virginia.

The pests have been found during inspection of imported shipments, and with repeated interceptions it was necessary to issue a quarantine to require origin treatment and certification to assure arrival of pest-free materials.

Dry ear corn, corncobs, cornstalks and sugarcane from the quarantined states will be admitted when treated by fumigation or other prescribed method and certified by origin state

officials prior to shipment to California. Fresh, green ear corn will be admissible into the state when inspected and certified by an authorized state official at origin that field insecticidal treatments have been properly applied and no infestation found. In lieu of field treatment, the corn may be certified as having been fumigated by an approved method prior to shipment.

Bindweed Control Still A Problem in Kansas

MANHATTAN, KANSAS—Although 77,668 acres of bindweed were destroyed in Kansas in the past five years, the pest is still "probably increasing faster than we are killing it," Harold E. Jones, director of Kansas Extension Service, said at a weed control short course on the Kansas State College campus in Manhattan.

Mr. Jones said that extension service's part during the past five years in helping to combat the weed included 3,085 spray demonstrations and 413 cultivation demonstrations. He said that the seriousness of the pest pointed up the need for a weed control specialist on the Kansas State College extension staff and that it is hoped such a specialist can be secured in the next few years.

Oklahoma Dean Stresses Importance Of Soil Fertility

OKLAHOMA CITY—"There is no problem facing the farmer today that is of greater importance to a sound and stable agriculture than soil fertility," said Dr. Randall J. Jones, dean of resident instruction at Oklahoma A&M College, Stillwater, before an audience of fertilizer dealers, businessmen and agricultural leaders at a recent meeting here.

Speaking at the "Wheat Belt Special" dinner, sponsored by Olin Mathieson Chemical Corp., Dr. Jones said, "It would have been difficult to persuade the early settlers who broke virgin sod in Oklahoma that the soil would ever need anything except water to grow good crops. A half century of soil depletion, however, has convinced many of the pioneers' grandsons that the soil is not an inexhaustible resource."

"Although fertilizer tonnage has increased tenfold in Oklahoma since the war years," said Dr. Jones, "in Oklahoma, as well as in practically every other state, the use of fertilizer is far below what it should be for efficient production and maintenance of soil fertility."

Dr. Jones praised the trend toward greater use of high analysis fertilizer as "a very good one." He said, "Another factor which may be significant is a preliminary indication that ammonium phosphate may have certain advantages as a phosphate carrier, especially at low soil moisture levels."

Commenting on agriculture's current economic problems, Dr. Jones urged, "let us recognize that when the economic squeeze comes, it is more important than ever to increase the efficiency of farming operations. Research information that will aid the job of production, processing, and marketing must be utilized to the maximum. Furthermore, it is also the time when even greater emphasis should be placed on research."

Commenting that the most certain way of pointing toward solutions to the problems in agriculture is to accelerate research, Dr. Jones pointed out that the Oklahoma Agricultural Experiment Station is moving forward as rapidly as possible in an expanded research program.

CROPLIFE, August 20, 1956—23

Classified Ads

Classified advertisements accepted until Tuesday each week for the issue of the following Monday.

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IOWA SOIL MOISTURE

AMES, IOWA—Northeast Iowa continues to have a good supply of subsoil moisture available to plants. But the latest Iowa State College soil moisture survey shows subsoil moisture low in most of the remaining two-thirds to three-quarters of the state as of Aug. 1.

PRICE DECLINE

AMES, IOWA—One of the big reasons farm prices have declined greatly since 1950 is that domestic production has gone up 12% while demand has gone up only 10% since that time. This was brought out by Donald R. Kaldor, economist at Iowa State College, as he talked to the more than 100 people attending the college's third annual Farm Operation Field Day.

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